REPORT RESUMES

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CHARACTERISTICS OF PERSONS WITH IMPAIRED HEARING. UNITED STATES--JULY 1962-JUNE 1963. VITAL AND HEALTH STATISTICS--DATA FROM THE NATIONAL HEALTH SURVEY, NATIONAL CENTER FOR HEALTH STATISTICS.

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COLLECTED BY INTERVIEWERS FROM A REPRESENTATIVE SAMPLE OF 42,000 HOUSEHOLDS CONTAINING 134,000 PERSONS, THIS DATA PERTAINS TO THE HEARING-IMPAIRED POPULATION IN 1962-1963. THE REPORT PRESENTS THE SOCIAL, ECONOMIC, AND DEMOGRAPHIC CHARACTERISTICS OF THE POPULATION WITH IMPAIRED HEARING, AND ALSO GIVES DATA ON THE UTILIZATION OF AND SATISFACTION WITH HEARING AIDS, AGE AT ONSET OF LOSS, AND THE TRAINING AND TESTING RECEIVED. ON THE BASIS OF THE INTERVIEWS APPROXIMATELY EIGHT MILLION PERSONS WERE ESTIMATED TO HAVE SOME HEARING LOSS IN ONE OR BOTH EARS. ABOUT FOUR MILLION PERSONS WERE CLASSIFIED AS HAVING A BINAURAL HEARING LOSS, AND AMONG THESE, 856,000 PERSONS WERE CLASSIFIED AS UNABLE TO HEAR AND UNDERSTAND SPOKEN WORDS. TWENTY-TWO PERCENT OF THE BINAURAL POPULATION REPORTED CURRENT USE OF HEARING AIDS. INCLUDED IN THE REPORT ARE 23 PAGES OF TABLES PRESENTING INFORMATION ON THE HEARING-IMPAIRED POPULATION, THE UTILIZATION OF HEARING AIDS, CAUSE AND ONSET OF HEARING IMPAIRMENT, HEARING AND SPEECH TRAINING, HEARING EXAMINATION, AND ASSOCIATED VISUAL IMPAIRMENT. THE APPENDIXES INCLUDE A DESCRIPTION OF THE METHODS AND DEFINITIONS USED IN THIS SURVEY AND SAMPLES OF THE HOUSEHOLD INTERVIEW QUESTIONNAIRE. REFERENCE LIST CONTAINS FIVE ITEMS. THIS DOCUMENT WAS PUBLISHED AS PHS PUBLICATION NO. 1000-SERIES 10-NO. 35 BY THE SUPERINTENDENT OF DOCUMENTS, U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON, D.C. 20402. $0.45. (GD)

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characteristics of
Persons With Impaired Hearing

United States - July 1962 - June 1963

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
Public Health Service

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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NATIONAL CENTER For HEALTH STATISTICS | Series 10 Number 35

VITAL and HEALTH STATISTICS

DATA FROM THE NATIONAL HEALTH SURVEY

characteristics of
Persons With Impaired Hearing
United States - July 1962 - June 1963

Demographic and other characteristics of persons with a binaural hearing impairment, classified according to amount of hearing loss.

Washington, D. C.

April 1967

U.S. DEPARTMENT OF
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In accordance with specifications established by the National Health Survey, the Bureau of the Census, under a contractual arrangement, participates in most aspects of survey planning, selects the sample, collects the data, and carries out certain parts of the statistical processing.

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IN THIS REPORT data are presented on persons in the population with a binaural loss of hearing, classified in terms of their ability to hear and understand speech. The data are based on information collected in household interviews in a representative sample of the U.S. population.

Estimates of the social, economic, and demographic characteristics of the population with impaired hearing are given in the report. In addition, data on the utilization of hearing aids, age at onset of hearing loss, special training and treatment received, and other factors pertinent to the population with impaired hearing are provided.

A description of the methods used in the survey, definitions used in the report, and a copy of the questionnaire forms are contained in the appendixes.

A little over 4,000,000 persons were reported to have some loss of hearing in both ears. Among this group, without the use of a hearing aid, 856,000 persons were classified as unable to hear and understand speech; 736,000 were classified as able to hear and understand a few spoken words; and 2,439,000 were classified as able to hear and understand most spoken words.

About 22 percent of the population with impaired hearing reported current use of hearing aids. Data on the amount of use of and the degree of satisfaction with the hearing aid as well as other information on this group of persons are contained in the detailed tables and discussed in the text of the report.

SYMBOLS

Data not available	---
Category not applicable	...
Quantity zero	-
Quantity more than 0 but less than 0.05	0.0
Figure does not meet standards of reliability or precision	*

CHARACTERISTICS OF PERSONS WITH IMPAIRED HEARING

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INTRODUCTION

In 1962 the National Center for Health Statistics issued a publication which contained estimates of the number of persons in the Nation with impaired hearing.[1] These data were based on information obtained by means of household interviews. At that time no provisions were made to classify the extent of the hearing deficiency. Subsequently, a set of questions was designed to estimate the degree of hearing loss, providing the estimates in the present report. The information on which these estimates are based was collected as part of the continuing nationwide household interview survey conducted by the Division of Health Interview Statistics of the National Center for Health Statistics.

The National Center for Health Statistics, a unit of the U.S. Public Health Service, uses a variety of methods for securing statistics on the health of the U. S. population. One of these methods is the Health Examination Survey. The Division of Health Examination Statistics recently published a report[2] containing estimates of hearing levels based on audiometric examinations of a nationwide sample of persons 18-79 years of age. The present report briefly discusses the relationship between these findings and those of the Health Interview Survey.

In addition to presenting the social, economic, and demographic characteristics of the population with impaired hearing, this report also describes factors pertinent to this group, such as the utilization of and satisfaction with hearing aids, age at onset of hearing loss, and the training and testing received.

SOURCE AND QUALIFICATIONS OF THE DATA

The information contained in this report was obtained from, first, household interviews conducted by trained interviewers of the Bureau of the Census for the Health Interview Survey, National Center for Health Statistics, and then from a follow-up supplementary questionnaire mailed to those persons for whom hearing impairment was reported during the interview.

The Health Interview Survey derives data from a continuous probability sampling of the civilian, noninstitutional population of the United States. The sample is so designed that interviews are conducted each week with a representative sample of the Nation's households. During the year covered by this study, July 1962-June 1963, the sample included about 42,000 households containing 134,000 persons.

A description of the design of the survey, the methods used in estimation, and general qualifications of the data obtained from surveys is presented in Appendix I. Since the estimates shown in this report are based on a sample of the population rather than on the entire population, they are subject to sampling error. Therefore, particular attention should be paid to the section titled "Reliability of Estimates." Sampling errors for most of the estimates are of relatively low magnitude. However, where an estimated number or the numerator or the denominator of a rate or percentage is small, the sampling error may be high. Charts of relative sampling errors and instructions for their use are shown in Appendix I.

Certain terms used in this report are defined in Appendix II. Since many of these terms have specialized meanings for the purpose of this survey, familiarity with these definitions will assist the interpretation of the data.

The questionnaire used in the household interview is illustrated in Appendix III. The prevalence of hearing impairments was derived from responses to the illness-recall questions (8-14) and in particular from question 13, in which the interviewer reads to the respondent a list of impairments referring to the question "Does anyone in the family have any of these conditions?—Deafness or serious trouble hearing with one or both ears?" (See Card B, Appendix III.) Conditions or impairments reported in response to any of these illness-recall questions were recorded. Later, additional questions were asked to obtain a better description of the condition, as well as information about the onset of the condition and the resulting amount and type of disability.

To obtain the more detailed information required for this special study of hearing ability, all persons who were reported in the interview as having a hearing problem were mailed a supplementary questionnaire which they were requested to complete and return (see Appendix IV.) For children, a parent or guardian was asked to provide the information. Procedures used to obtain responses from as many persons as possible resulted in a response rate of about 93 percent of the persons who were sent this hearing ability questionnaire. A more detailed analysis of nonresponse problems and the quality of response in the hearing ability survey is contained in an earlier report.[3]

The first item on the mailed questionnaire contained nine statements relating to ability to hear various sounds and to comprehend speech. The respondent was requested to answer "yes" or "no" to these statements in terms of his or his child's ability to hear without a hearing aid. In the analysis of the data persons were classified according to their degree of hearing loss as measured by statements a, b, c, e, and g.[a] Essentially the classification was based on the first negative response to the scale statements. The entire set of statements included on the questionnaire is as follows:

a. I can hear loud noises.

b. Most of the time I can tell one kind of noise from another.

c. If I hear a sound, most of the time I can tell if it is a person's voice or not.

d. I can hear and understand a few words a person says if I can see his face and lips.

e. I can hear and understand a few words a person says without seeing his face and lips.

f. I can hear and understand most of the things a person says if I can see his face and lips.

g. I can hear and understand most of the things a person says without seeing his face and lips.

h. Most of the time I can hear and understand a discussion between several people without seeing their faces and lips.

i. I can hear and understand a telephone conversation on an ordinary telephone (that is, a telephone without an amplifier).

Although the hearing scale was designed to obtain information about the respondents' total

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[a] Preliminary research indicated that statements a, b, c, e, and g comprise a unidimensional scale, i.e.; once a person responded negatively to one of these items his response to succeeding items would also be negative. Statements d and f were included in the questionnaire merely to emphasize the fact that the succeeding statements (e and g) were to be answered in terms of hearing ability without visual assistance. Statements h and i were included on an experimental basis and were never intended for inclusion in the analytical scale.

Table A. Number and percent distribution of persons who were reported in the interview to have a hearing impairment in one or both ears, according to whether respondent reported one or both ears affected on the supplementary questionnaire: United States, July 1962-June 1963

Number of ears affected according to information obtained from the supplement	Persons reported in interview to have a hearing impairment in one or both ears	
	Number in thousands	Percent distribution
Total	8,005	100.0
Persons with impaired hearing in both ears	4,085	51.0
Persons with impaired hearing in one ear	2,470	30.9
Persons reporting hearing good in both ears	647	8.1
Nonresponse	804	10.1

hearing ability, there was indication that some of the respondents with hearing loss in only one ear tended to respond to the hearing scale in relation to their impaired ear. Therefore, in classifying the degree of hearing loss, the response to question 2, which asks for the respondent's own estimate of his hearing ability in each ear separately, was also considered. Because persons having an impairment in only one ear can hear and understand conversations satisfactorily in most instances, it was decided that, for this report, only those persons who reported binaural hearing loss would be included. However, a brief discussion is presented of the total population that was reported on the basis of the interview to have a hearing impairment in one or both ears.

CLASSIFICATION OF PERSONS WITH IMPAIRED HEARING

As shown in table A, approximately 8 million persons were estimated from the interview to have some hearing loss in one or both ears. This estimate is considerably larger than the 6.2 million persons reported in the 1962 report dealing with the hearing-impaired population.[1] While a small portion of this increase might be attributed to the increase in population size during the interval between surveys, it is believed that the major portion of the increase was due to the rewording of the probe question (the question intended to elicit the reporting of a hearing impairment) in the interview for the later survey. Estimates from the earlier year were based on positive responses to the question "Does anyone in the family have deafness or serious trouble hearing?" Respondents for persons with loss of hearing in one ear but with good overall hearing ability may not, in many cases, have responded positively to the question. Later, when the phrase "in one or both ears" was added to the questions, the chance of persons with monaural hearing loss being reported was thus increased.

Of the 8 million persons reporting impaired hearing in the interview, approximately 31 percent reported a hearing impairment in only one ear. In addition, about 8 percent of the persons who were reported in the interview to have a hearing impairment in one or both ears indicated on the supplemental questionnaire that their hearing was good in both ears. Since any "competent" family member 19 years or older was eligible to respond for another member absent at the time of interview, this inconsistency may be due to the use of a proxy respondent in the interview. Later, when the person himself completed the supplement he denied the existence of impaired hearing. It is quite possible for a proxy respondent to report correctly a hearing impairment for another family member even though that person himself may consider his hearing normal.

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Table B. Number and percent distribution of persons with a binaural hearing impairment according to their ability to hear sounds and speech without the use of a hearing aid: United States, July 1962-June 1963

Classification of functional degree of hearing loss	Number of persons in thousands	Percent distribution
Persons with impaired hearing in both ears	4,085	100.0
Unable to hear loud noises	147	3.6
Able to hear loud noises, unable to distinguish between noises	143	3.5
Able to distinguish between some noises, unable to distinguish voices	53	1.3
Able to distinguish voices, unable to understand speech	512	12.5
Able to understand a few words, unable to understand most things that are said	736	18.0
Able to understand most things that are said	2,439	59.7
Degree of hearing loss unknown	54	1.3

For approximately 10 percent of those persons reported in the interview to have a hearing loss in one or both ears, no supplementary information was available. This category, referred to as the nonresponse group, was primarily the result of failure on the part of the respondent to return a completed supplement. It does include, however, approximately 3 percent of the population who were not sent the hearing ability supplement due to clerical error.

The nonresponse group in any probability sample deserves serious consideration. There is evidence indicating that the degree of impaired hearing was dissimilar among respondents and nonrespondents. However, the evidence is not definitive enough to permit distribution according to any specific formula. The evidence indicates that a large proportion of the nonresponse group consisted of persons who failed to complete the supplement because they considered their hearing unimpaired or only slightly impaired and therefore thought the supplement did not apply to them. Because of this, the best alternative seemed to be to delete these persons from the estimates, at the risk of some undercounting of the hearing impaired population. However, table 1 includes the number and rate of persons classified in the nonresponse group so that the reader may see the group's age and sex distributions.

Approximately 4 million persons, or only slightly more than 50 percent of the persons who were reported in the interview to have a hearing loss in one or both ears, were classified as having a binaural hearing loss according to the supplementary information obtained from the follow-up questionnaire. Discussion in the remainder of this report will be restricted to this group.

PERSONS WITH BINAURAL HEARING LOSS

The most detailed classification of persons with binaural hearing loss that could be obtained from the hearing scale is presented in table B. It should be emphasized that the classification is in accordance with the instructions to the impaired person to answer in terms of his ability to hear *without the use of a hearing aid.*

Although it might have been desirable, from the standpoint of persons concerned with the problems of the population with hearing impairment, to have shown these separate categories in all of the tables in this report, this was not possible because the frequencies within some of these categories were too small. Any attempt to cross-classify these low frequency categories with other variables would result in unreliable estimates because of the magnitude of the sampling error. Since interference with communication is the most serious result of a hearing impairment, the categorization of severity of hearing loss is presented in terms of ability to hear and understand speech.

Respondents who indicated the most severe hearing impairments by answering "no" to one or more of the first three scale statements (first four categories in table B) were all grouped under the single heading "cannot hear and understand spoken words" (at times referred to as "no speech comprehension"). This category extends from those persons who have no sound perception to those who can distinguish a person's voice from other noises but are unable to comprehend speech.

Those persons who reported that they are able to understand a few words but unable to understand most things that are said are referred to in this report as the "can hear and understand a few spoken words" group.

The final and largest category was termed the "can hear and understand most spoken words" group. This included all those persons who answered positively to all five scale statements. It would have been extremely advantageous if this latter group could have been further refined to determine a more exact degree of hearing loss for this population. However, it is known that the hearing impairment was reported in the interview and the person himself or his parent reported the existence of some loss of hearing in both ears, in the follow-up survey.

It should be noted that some overlap is expected between the two groups, "can hear and understand a few spoken words" and "can hear and understand most spoken words," since the scale statements did not control for the loudness of speech nor for the pitch of the speaker's voice.

During the 12-month period ending June 1963, 4.1 million persons (a rate of 22.3 persons per 1,000 population) were reported as having a loss of hearing in both ears (table 1). The population rates for the three groups categorized by degree of speech comprehension are as follows:

Cannot hear and understand spoken words
4.7 persons per 1,000 population

Can hear and understand a few spoken words
4.0 persons per 1,000 population

Can hear and understand most spoken words
13.3 persons per 1,000 population

As noted previously, this categorization is based on the amount of speech comprehension the person with impaired hearing has without the use of a hearing aid.

Age and Sex

The association of hearing loss and age is readily apparent from the data in this report. The rates for all persons with binaural hearing loss increase from 3.5 persons per 1,000 population under 17 years of age to 132.0 per 1,000 persons 65 years of age and over (table 1).

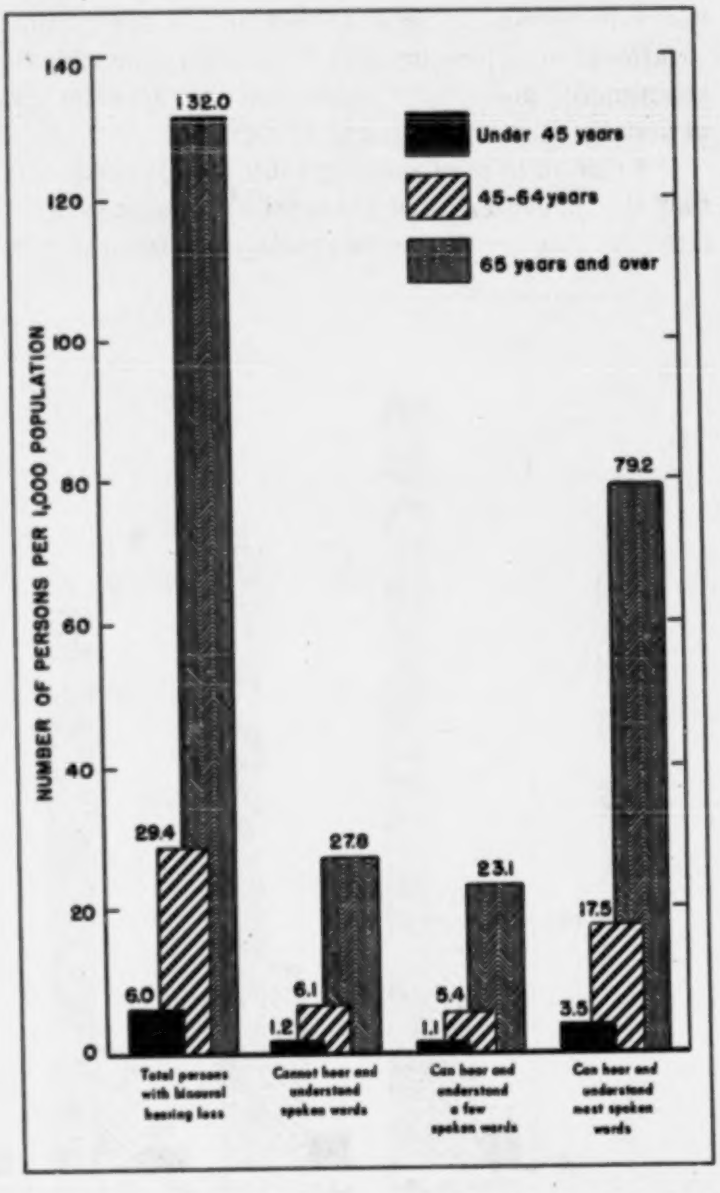

Figure I. Number of persons with binaural hearing loss per I,000 population, by age and speech comprehension group.

Approximately 80 percent of the persons with binaural hearing loss were 45 years of age or older and 55 percent were 65 years of age or older.

The strong relationship of hearing loss and age shown for the total population with binaural hearing loss was also apparent in each of the speech comprehension groups. The estimates in table 1 and figure 1 indicate that persons 65 years of age or older made up over 50 percent of each group.

Because older persons constitute a high proportion of the hearing-impaired population, any analysis of hearing impairment in relation to other characteristics must take age into consideration. For this reason, in most tables in this report the relationship of hearing loss to income, educational attainment, and other population characteristics is usually shown within age groups.

From data presented in table 1, it is apparent that the prevalence of binaural hearing loss was considerably greater among males than females; in

Table C. Number of persons with binaural hearing loss per 1,000 population, by sex and speech comprehension group: United States, July 1962-June 1963

Speech comprehension group	Male	Female
	Number of persons per 1,000 population	
All groups---	[1]25.5	[1]19.3
No speech comprehension-----	4.7	4.6
Can hear and understand a few spoken words------	4.3	3.8
Can hear and understand most spoken words------	16.3	10.5

[1] Totals include 54,000 persons who were not classifiable as to speech comprehension.

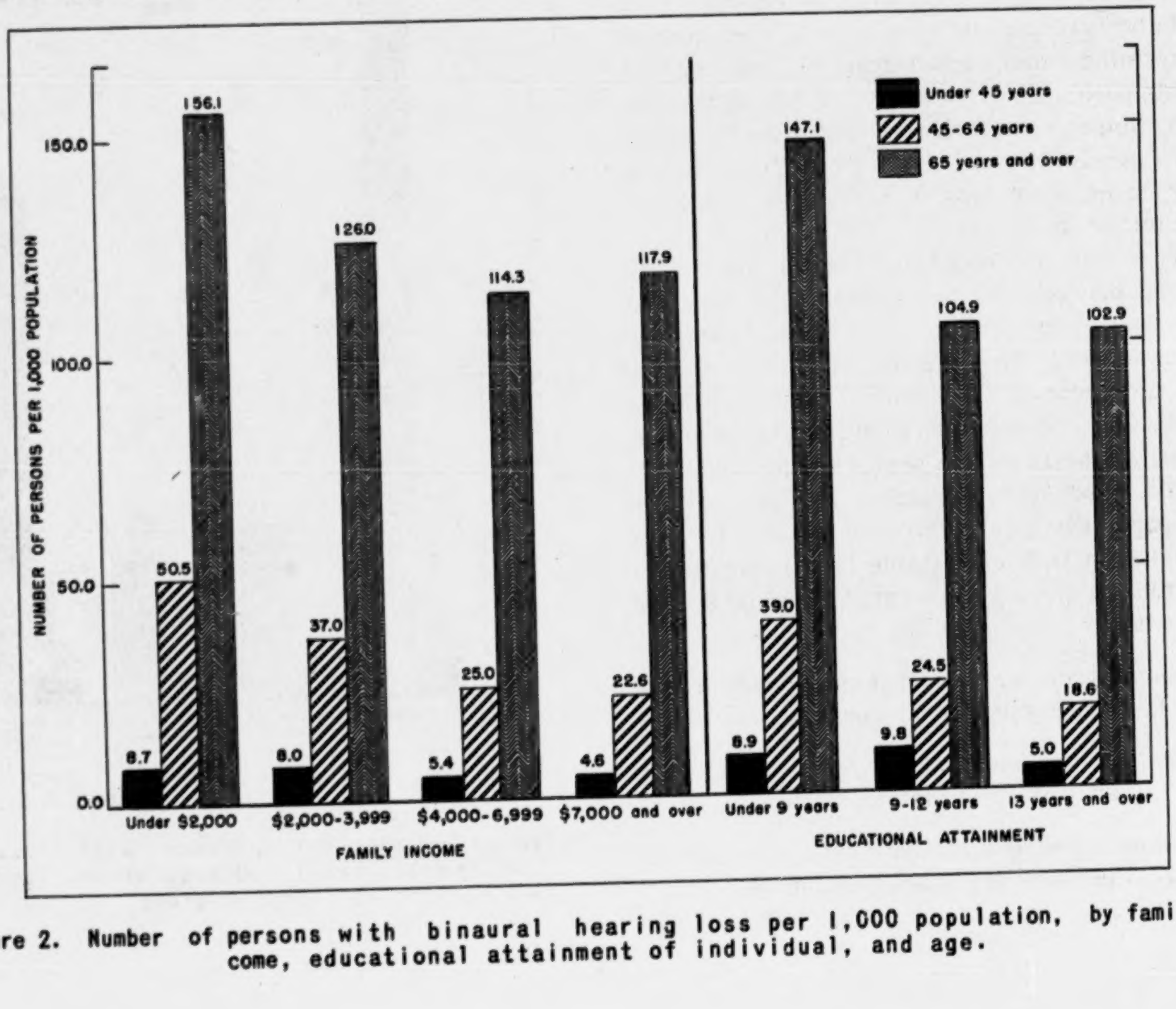

Figure 2. Number of persons with binaural hearing loss per 1,000 population, by family income, educational attainment of individual, and age.

each of the age groups the rate for males was higher than the rate for females. However, the differences were much greater for the two older age groups than for the two younger age groups.

The difference in rates between the sexes is primarily due to the rate difference among those with the least hearing loss, that group defined as "can hear and understand most spoken words." The rates for males and females do not differ much in the most severe hearing-loss group (tables C and 1).

Family Income and Educational Attainment

The prevalence of binaural hearing impairment decreased as the amount of family income and the educational attainment of the individual increased. The pattern is quite apparent in each of the age groups shown in figure 2. While it is obvious that a relationship exists between hearing impairments and the amount of family income and educational attainment, it is not possible to develop any causal relationships. The data on family income shown in table 2 do not take into consideration the size of the family or other factors that may affect the economic position of the family. However, in spite of this limitation, it is believed that the data can be used to show a general relationship between economic status and hearing loss.

Within each of the age and sex groups, the rates for persons with binaural hearing loss are highest for the lowest income groups and in general the rates decrease as family income increases. In general, this pattern was apparent in each of the speech comprehension groups. This finding is consistent with other data from the health survey which show that chronic conditions causing limitation of activity are more prevalent among persons with lower incomes.[4]

Since in many cases the ability of a person to hear can be improved by a hearing aid, it is of particular significance that 2,241,000 of the 4,085,000 persons (about 55 percent) with binaural hearing loss have family incomes of less than $4,000. Characteristics of persons with hearing aids are discussed more fully in the section of the report beginning on page 9.

Table D. Percent distribution of the U.S. population and of persons with binaural hearing loss, 17 years of age and over, by educational attainment of the individual according to age: United States, July 1962-June 1963

Age and binaural hearing loss	Educational attainment				
	Total	Under 9 years	9-12 years	13 years or more	Unknown
	Percent distribution				
17-44 years					
U.S. population------------------------	100.0	25.5	50.9	22.0	1.6
Persons with binaural hearing loss------------	100.0	26.8	59.0	13.1	* (0.9)
45-64 years					
U.S. population------------------------	100.0	42.3	38.9	16.1	2.7
Persons with binaural hearing loss------------	100.0	56.0	32.5	10.2	* (1.3)
65 years and over					
U.S. population------------------------	100.0	57.1	27.5	11.8	3.6
Persons with binaural hearing loss------------	100.0	63.6	21.8	9.2	5.3

Among adult persons in the general population who had completed less than 9 years of school there were proportionately more persons with impaired hearing than among persons who had completed 9-12 years of school or among persons with 1 year or more of college attendance (table 3).

In table D the educational status of persons with impaired hearing is compared with that of persons in the general population in the same age groups. Among persons 17-44 years of age the percentage of persons who had completed less than 9 years of school was about the same for persons with impaired hearing and persons in the general population (about 27 percent and 26 percent, respectively). However, in this age group, 22.0 percent of the general population had attended college for 1 year or more compared with only 13.1 percent of the population with impaired hearing.

There is a somewhat greater educational disparity between the general population and persons with impaired hearing in the next age group shown (45-64 years). About 55 percent of the general population had completed 9 years or more of school compared with about 43 percent of the hearing-impaired population. Also 16 percent of the total population had completed 1 year or more of college compared with about 10 percent for persons with binaural hearing loss.

Also for persons 65 years of age and over it appears that proportionately fewer of the hearing-impaired population had attended school above the high school level. The proportion who had completed 9 years or more of school was a little over 39 percent for the general population compared with 31 percent for persons with impaired hearing.

Although it appears from these data that persons with an impairment of hearing had a lower educational attainment than persons in the general population, it cannot be assumed that impaired hearing was the sole causative factor. Social and economic differences as well as health conditions other than impaired hearing must be considered as possible contributing causes to the differences in educational attainment shown by the data.

Color

Comparative data on impaired binaural hearing among white and nonwhite persons are shown in table 4 by age. While the rates for nonwhite persons are based on small frequencies and consequently are subject to relatively high sampling errors, there is, nevertheless, a considerably higher rate for white persons (23.3 per 1,000) compared with that for nonwhite persons (15.1 per 1,000). In general, these racial differences held true for all age groups and degrees of hearing loss.

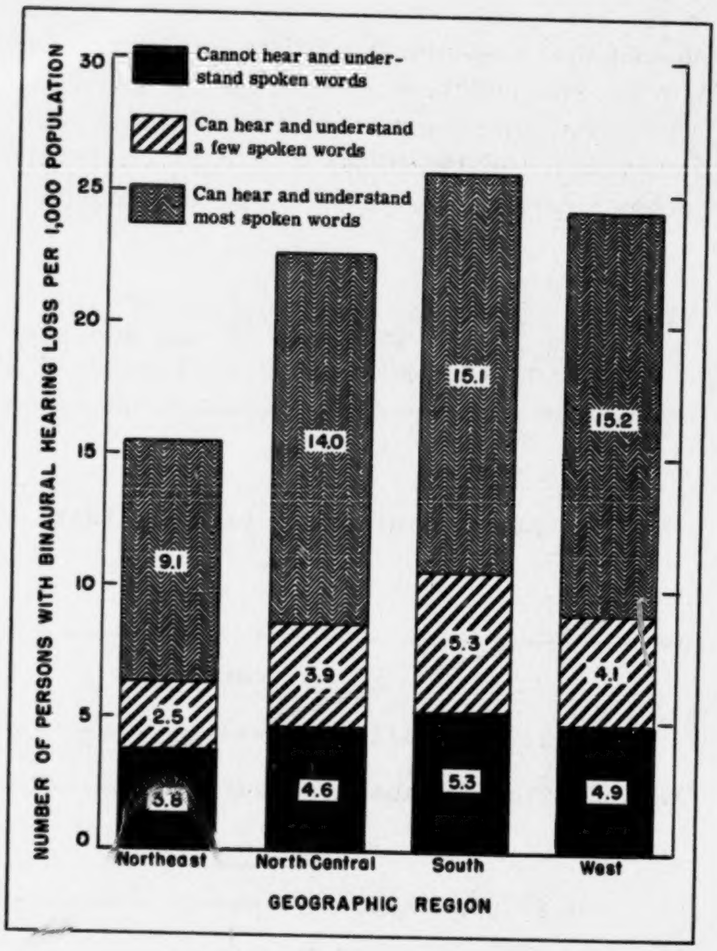

Figure 3. Number of persons with binaural hearing loss per 1,000 population, by geographic region and speech comprehension group.

Residence and Region

According to the rates shown in table 5, the prevalence of binaural hearing impairment is lowest in urban areas. This is true for each of the age groups shown in the table.

For persons under 45 years and persons 45-64 years of age the rates are highest among rural-farm residents. However, for persons 65 years of age or older the rates are highest among rural-nonfarm residents. In all areas of residence the rate of hearing impairment was higher among males than among females, with the greatest disparity among those in the least severely impaired group, "can hear and understand most spoken words."

The number of persons with a hearing loss are shown in table 6 according to the major geographic region in which they lived. In each of the age groups, the rates are lowest for the Northeast Region of the country and highest in the South and West.

For the speech comprehension groups the frequencies become too small to interpret differences between the geographical regions. However, in most cases the rates for the Northeast tend to be lower than the rates in the other areas (fig. 3).

THE USE OF HEARING AIDS

In tables 7-14 data are presented on the use of hearing aids among persons with binaural hearing loss, including information on the type of aid used, reasons for selecting the aid, satisfaction with the aid, and the amount of use of the aid.

These data are presented in the form of percent distribution because in many cases the sampling errors of the frequencies on which they are based are large. Proportions based on subclasses of sample data are statistically more reliable than the frequencies on which they are based. Nevertheless, these distributions should be treated as merely suggestive of the patterns of distributions.

Tables 7-10 show the proportion of persons who use a hearing aid, those who have formerly used an aid, and those who have never used an aid, according to speech comprehension group, age, and income.

About 22 percent of the population with binaural hearing loss were currently using aids, about 6 percent were former users, and about 70 percent had never used an aid (table E). Approximately 2 percent indicated that they had had an aid at some time but did not report whether they were still using an aid. Proportionately more females were presently using aids (24.5 percent) than were males (19.2 percent), and conversely more males (72.4 percent) than females (67.6 percent) had never used an aid.

Information relating to hearing aids was previously collected in the Health Interview Survey during the period July 1958-June 1959.[5] At that time it was found that approximately 1,161,000 persons had a hearing aid. Of these persons, 979,000, or about 17 percent of those with hearing impairments, were current users of aids. This percentage is comparable to the 22 percent of current users in the present study when allowance is made for the fact that the earlier percentage was based on all persons with impaired hearing. In the collection procedure used in the early years of the survey, information relating to binaural hearing loss was not obtained.

The sex differential in the use of hearing aids was quite similar in the two surveys, with the earlier data providing estimates of hearing aids reported by 22.9 percent of the females and 18.0 percent of the males with impaired hearing.

As might be expected, the use of hearing aids is very closely related to hearing ability (table E). About 43 percent of those with no speech comprehension were current users of hearing aids and only about 45 percent of these persons had never used an aid. Among those who could hear and understand most words, only about 12 percent were using aids and about 82 percent had never used an aid.

Although there was little difference by age in the proportion of persons who were currently using aids, the proportion who had never used

Table E. Number and percent distribution of persons with binaural hearing loss, by use of hearing aid according to selected characteristics: United States, July 1962-June 1963

Characteristic	Number of persons in thousands	Hearing aid use				
		Total	Present user	Former user	Present use unknown	Never had or unknown
		Percent distribution				
All persons------------	4,085	100.0	21.6	5.9	2.2	70.3
Speech comprehension group						
Cannot hear and understand spoken words----------------	856	100.0	42.8	8.6	* (3.3)	45.3
Can hear and understand a few spoken words----------------	736	100.0	28.7	8.3	* (3.0)	60.1
Can hear and understand most spoken words----------------	2,439	100.0	12.3	4.4	* (1.5)	81.8
Sex						
Male-------------------------	2,264	100.0	19.2	6.2	2.2	72.4
Female-----------------------	1,821	100.0	24.5	5.7	2.1	67.6
Age						
Under 45 years---------------	771	100.0	18.9	4.3	1.3	75.5
45-64 years------------------	1,087	100.0	22.4	4.7	1.4	71.6
65 years and over------------	2,226	100.0	21.1	7.2	2.9	63.6
Family income						
Under $2,000-----------------	1,281	100.0	17.2	7.5	* (2.3)	73.1
$2,000-$3,999----------------	960	100.0	19.5	* (2.9)	* (2.3)	75.3
$4,000-$6,999----------------	867	100.0	21.5	5.9	* (2.3)	70.2
$7,000 and over--------------	753	100.0	30.9	7.0	* (2.0)	60.2
Unknown----------------------	223	100.0	25.1	* (6.7)	* (1.3)	66.8

an aid decreased with age. These proportions were about 76, 72, and 64 percent for ages under 45, 45-64, and 65 years and over, respectively. Among persons 65 years and over, 7 percent of those with binaural hearing impairment had formerly used a hearing aid, as compared with 4 percent among those under 45 years and 5 percent of those 45-64 years. This comparatively high rate of aged persons who have discontinued the use of an aid may be related to the original basis for its selection. Only 27 percent of the persons 65 years and older who had ever used an aid chose it on the basis of advice from a doctor or clinic as compared with 38 percent of those under 65 years who had used an aid (table F).

The proportion of current users of hearing aids is directly related to income; the higher income the higher the percentage of persons who are presently using an aid (table E). However, this pattern is not the same for the proportion of persons who had formerly used an aid. In the income group less than $2,000 there is a high proportion of persons 65 years and older, the age group having the highest percentage of former aid users. For this reason, the percent

Table F. Percent distribution of persons who have ever used a hearing aid, by basis for selection of aid according to age: United States, July 1962-June 1963

Basis for selection of aid	All ages	Under 65	65 and over
	Percent distribution		
Total------	100.0	100.0	100.0
Prescribed by doctor----------	12.9	14.9	11.7
Clinic------------	18.1	22.7	14.9
Dealer------------	33.7	29.1	36.9
Advertisement-----	7.8	7.4	8.1
Friend or relative---------	11.9	7.8	14.5
Other and unknown-	15.7	18.1	14.0

of hearing-impaired persons who had formerly used an aid is higher in this income group than in the group, $2,000-$3,999.

While there were relatively small differences in hearing aid use in the lower three income groups, the proportion of persons who have ever used an aid was considerably higher among those with family incomes of $7,000 or more.

Type of Aid Used

About 31 percent of the hearing aid users chose their aids on the recommendation of a medical doctor or clinic, 53 percent chose aids without the recommendation of a medical practitioner, and about 16 percent were not classified (table 11). In general these proportions apply to each of the speech comprehension groups.

Of the persons with impaired hearing who had ever used an aid, approximately 33 percent had a monaural air conduction type of aid in which the batteries and amplifier were located at ear level and 44 percent had a monaural air conduction aid for which the batteries and amplifier were worn elsewhere on the body (table 12). The proportion of persons who used binaural air conduction aids (8 percent) and bone conduction aids (5 percent) was relatively small. The amplification potential for amplifiers worn on the body generally is more powerful than that for ear-level types. For this reason it appears that the proportion of persons who select this type of aid increases as speech comprehension decreases. However, it should also be noted that since ear level aids are relatively new, persons with long-standing hearing impairments may have obtained the "body-worn" amplifier at a time when no other choice was available. Among those who have ever had an aid, 53 percent of the persons categorized as "cannot hear and understand spoken words" had selected a monaural air conduction aid which was worn on the body. The proportion decreased to 44 percent for those who "can hear and understand a few spoken words." Persons with the least amount of hearing loss, "can hear and understand most spoken words," used this type of aid less than either of the other two groups. Of this group, who had ever had an aid, 36 percent had chosen such an aid.

Degree of Satisfaction With the Aid

The degree of satisfaction with the aid as reported by persons who are presently using a hearing aid is shown in table 13. Former users of a hearing aid were not asked to report the degree of satisfaction with their aid nor were they asked why they had stopped using it. However, it seems reasonable to assume that most of these persons stopped using their aid because it did not give them enough satisfaction. (Inability or failure to provide proper maintenance for the aid could of course result, ultimately, in dissatisfaction with the aid.) This assumption is supported by data which show that approximately 58 percent of former hearing aid users stopped wearing the aid because it caused discomfort.[5]

Estimates shown in table G clearly indicate that the proportion of hearing aid users who expressed satisfaction with their aids increased as their hearing loss increased and, conversely, dissatisfaction with the aid increased as the ability to hear increased. This relationship of hearing aid satisfaction to hearing ability was the same for both men and women. However, females in general appeared more satisfied with their aids than did males. This is especially true for the two groups with the better hearing

Table G. Percent distribution of persons with a binaural hearing loss who have ever used a hearing aid, by degree of satisfaction with the aid according to speech comprehension group and sex: United States, July 1962-June 1963

Sex and degree of satisfaction with aid	Persons who have ever used an aid			
	Total	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Percent distribution			
All persons	100.0	100.0	100.0	100.0
Satisfied	61.4	68.2	60.9	55.6
Not satisfied and not using aid	36.6	30.1	38.1	42.1
Unknown	* (2.1)	* (1.7)	* (1.4)	* (2.3)
Male	100.0	100.0	100.0	100.0
Satisfied	57.9	67.6	56.0	52.6
Not satisfied and not using aid	40.3	31.0	42.5	46.7
Unknown	* (1.8)	* (1.4)	* (2.2)	* (1.1)
Female	100.0	100.0	100.0	100.0
Satisfied	65.1	68.2	65.0	60.6
Not satisfied and not using aid	32.5	29.5	34.4	34.7
Unknown	* (2.4)	* (2.3)	* (0.6)	* (4.1)

ability. The greater satisfaction of females with their hearing aids might reflect their use in less demanding situtations, i.e., the external noise at home usually is less than that encountered at a place of business.

Amount of Use of Hearing Aid

Respondents who reported that they were currently using their aids were asked to indicate the extent the aids were used at various places or times; i.e., at work, home, school, church, the movies, and while listening to radio and television. (See question 16 (b), supplementary questionnaire, Appendix IV.) The responses to these questions were pooled and classified according to the terms used in table 14—constant, moderate, and negligible. (See Appendix II—Definition of Terms—for a complete description of these terms.)

It may be seen from table 14 that about 57 percent of persons currently using a hearing aid indicated constant use of their device and approximately another 27 percent indicated moderate use, while only about 6 percent indicated a negligible amount of usage. About 11 percent of the hearing aid users did not reply to the question. In the earlier Health Interview Survey data on hearing aids, July 1958-June 1959, 65 percent of the current users of aids used the aid all or most of the time, while 35 percent reported occasional use.

The proportion reporting negligible use of the hearing aid did not differ a great deal by speech comprehension group.

The amount of satisfaction with the hearing aid and the amount of use of the hearing aid are cross-classified in table H. As might be expected, those who reported constant use of the aid also expressed satisfaction with the aid more often

Table H. Percent distribution of persons with binaural hearing loss currently using a hearing aid, by degree of satisfaction according to amount of use: United States, July 1962-June 1963

Amount of use	Degree of satisfaction			
	Total	Satisfied	Not satisfied	Unknown
	Percent distribution			
All persons	100.0	84.6	12.6	* (2.8)
Constant use	100.0	93.0	* (6.0)	* (1.0)
Moderate use	100.0	76.9	* (18.4)	* (4.3)
Negligible use	100.0	* (62.7)	* (35.3)	* (2.0)
Unknown	100.0	70.5	* (21.1)	* (8.4)

than did the less frequent users of an aid. Among those who reported constant use 93 percent reported satisfaction with the aid, compared with 77 percent of the moderate users and 63 percent of the "negligible" users.

ONSET OF IMPAIRED HEARING

Age at Onset

Undoubtedly, replies to the question concerning the person's age at onset of impaired hearing in many cases reflect the age when the individual became aware of a hearing difficulty rather than the precise point in time that the degeneration of his hearing actually began. In addition to environmental factors that might influence an individual's awareness of his hearing impairment, the responses are also subject to errors of memory for those whose loss of hearing began many years before the survey. In spite of these limitations it is believed that the "date of onset" data presented in tables 15-18 are of sufficient reliability to be of interest to persons involved in the training and auditory rehabilitation of persons with impaired hearing.

About 20.6 percent, 843,000 of the 4,085,000 total persons with binaural hearing impairment, reported that the onset of hearing loss began prior to their 17th birthday (table 15). Among persons who were classified as having no speech comprehension at the time of the survey, 27.0 percent reported onset of loss as occurring prior to 17 years of age, compared with 21.3 percent for those who could understand only a few words and 18.5 percent for those who could understand most spoken words. At the opposite end of the age scale about 19.8 percent reported that the onset of loss occurred at age 65 or later.

Among persons 17-44 years of age, 51.3 percent were under 17 at the onset of their hearing loss. This percentage ranged from 69.2 percent among those with no speech comprehension to 46.9 for those who could hear and understand most words. Among persons 45-64 years, 19.3 percent reported that the onset of their hearing problem occurred prior to the age of 17, while among those 65 years and over the comparable proportion was 6.2 percent.

While the estimates of age at onset presented here lack the desired degree of precision, they are shown because of the importance of the problem. The need to detect and to quantify the extent of hearing loss of early onset is critical in planning for the treatment and educational resources required to cope with the problem. The Health Examination Survey has recently completed a series of examinations among children 6-11 years of age. When the results of the audiometric examinations among this group are published, more precise estimates of hearing loss of early onset will be available.

Reported Causes of Hearing Loss

For all persons with a binaural hearing loss there was a marked direct relationship between age at onset and the proportion of persons who reported an unknown cause of hearing loss. Approximately 39.9 percent of those with a binaural hearing impairment stated they did not know the cause of their impaired hearing (table 16). The proportion of "don't know" answers progressed from 19.3 percent for those with a reported onset at less than 6 years of age to 54.1 for those who reported the onset as occurring at 65 years or later.

Persons with no speech comprehension reported a definite cause more frequently than those in the other speech comprehension groups.

Illness was reported as the cause of hearing loss for 20.9 percent of these binaurally impaired persons and was the most frequent specific cause given. Accidents, the next most frequent cause, were reported 13.5 percent of the time. Hereditary and congenital factors were given as the cause of hearing loss more frequently for those with the most severely impaired hearing (no speech comprehension) than for the other two groups.

The frequency with which a given cause was mentioned varies with the reported age of onset. Hereditary and congenital factors were reported as the cause of about one-fourth of the hearing impairments beginning under 6 years of age and were rarely mentioned as a cause when the onset was reported as occurring later in life. Accidents were the most frequently reported cause among those who reported the onset of loss as occurring between 17 and 45 years of age and the second most frequent cause when the onset occurred between the ages of 6-16 years and 45-64 years. While presbycusis, hearing loss associated with aging, was the most frequent specific cause given by those who reported the onset of loss occurring after 65 years, it was reported by only 17.3 percent of this group. It is probable that the 54.1 percent of this age group who reported they did not know the cause of their impairment includes many persons whose hearing loss was due to the aging process.

The most frequently reported cause of hearing loss for females was illness (26.7 percent), whereas males reported accidents (20.6 percent) as the most frequent cause of hearing impairment (table 17).

Special Training Received

The age at onset of hearing loss appears to be closely related to the receipt of special training to cope with hearing problems (table 18). The proportion of those who had received training was 38.6 percent for those whose onset of hearing loss occurred prior to 6 years of age and decreased rapidly to 1.0 percent for those with an onset of hearing loss at 45 years or older.

Respondents were asked to report any attendance at special schools or classes for the deaf, training in lipreading, special training in the development or retention of their speech, or any training in learning how to use their residual hearing more effectively (auditory training).

Only 246,000, or 6.0 percent of all persons with binaural hearing loss, reported one or more of these types of training. However, 13.8 percent of the persons with no speech comprehension reported one or more types of special training, as compared with 7.9 percent of those who could hear and understand a few words, and 2.8 percent of the group that could hear and understand most words.

HEARING EXAMINATIONS AND TESTING

Reliability of Data

Responses to the series of questions designed to obtain information about the person's history of any hearing tests and whether the person's hearing had been tested by a medical doctor are subject to considerable response error. Besides the magnitude of the nonresponse and "don't know" answers, which for some questions and for some age groups reached 20 percent, there is some doubt about the accuracy of the definite answers received. Apparently it was difficult

Table J. Number and percent distribution of persons with binaural hearing loss, by type of hearing examination according to amount of known family income and age: United States, July 1962-June 1963

Type of hearing examination	Under $4,000				$4,000 and over			
	All ages	Under 45 years	45-64 years	65 and over	All ages	Under 45 years	45-64 years	65 and over
	Number of persons in thousands							
Total persons	2,242	277	469	1,496	1,620	453	558	609
Tested by:								
Medical specialist	502	78	109	315	723	272	245	207
Doctor other than specialist	262	61	65	136	181	59	68	54
Doctor, unknown type	140	26	31	84	111	34	42	35
Never tested by medical doctor	902	79	167	657	412	57	135	220
Unknown if tested by medical doctor	435	33	98	305	193	31	69	94
	Percent distribution							
Total persons	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Tested by:								
Medical specialist	22.4	28.2	23.2	21.1	44.6	60.0	43.9	34.0
Doctor other than specialist	11.7	22.0	13.9	9.1	11.2	13.0	12.2	8.9
Doctor, unknown type	6.2	9.4	6.6	5.6	6.9	7.5	7.5	5.7
Never tested by medical doctor	40.2	28.5	35.6	43.9	25.4	12.6	24.2	36.1
Unknown if tested by medical doctor	19.4	11.9	20.9	20.4	11.9	6.8	12.4	15.4

for some persons to identify the professional status of the examiner.

Despite these reservations, the data are presented because it is felt that, by showing the relationship of age to the utilization of medical advice and to the frequency of testing, they will be both useful and of interest.

Medical Examination

According to the data shown in table 19, the percentages of younger people who had had their hearing tested by a medical doctor and had consulted a medical specialist for hearing tests were higher than those for persons in the older age groups. This higher proportion of hearing tests for the younger population reflects, in part, the increasing number of hearing conservation programs in the public schools. About 65 percent of those under 45 years reported testing by a medical doctor (48 percent reported the doctor as a medical specialist), while only about 34 percent of those 65 years of age or over reported testing by a medical doctor (25 percent of these reported that the doctor was a specialist). For each age group persons with the more severely impaired hearing were more likely to have been tested by a medical specialist than were the less severely impaired persons.

The utilization of medical service in the testing of hearing ability was also closely related to the economic status of the impaired person. From table J it can be seen that 22.4 percent of those living in families with less than $4,000 income were examined by a medical specialist as compared with 44.6 percent of those with family income of $4,000 or more. This differential was fairly consistent for all age groups shown in table J.

This lack of medical attention among older persons and among those in low-income groups may explain to some degree the dissatisfaction with hearing aids and the termination of their use.

Interval Since Last Hearing Test by Medical Doctor

For both males and females and for all age groups only about 18 percent of the persons with binaural hearing loss had had their hearing tested within 2 years prior to the interview, and 34 percent had never been tested by a medical doctor (table 20). In relation to the severity of the impaired hearing, 25 percent of the persons with no speech comprehension, 32 percent with some speech comprehension, and 38 percent of the group with the "best" comprehension had never been tested by a medical doctor.

A comparison of the age groups readily shows that not only had younger persons had their hearing tested more recently, but that many more had received a hearing test at some time. For example, 32 percent of the persons under 45 had been given a hearing test within 2 years, compared with only 13 percent for those over 65; only 18 percent of those under 45 years of age had never been tested, while 41 percent of those over 65 had never been tested by a medical doctor.

Audiometric Testing

The age patterns of hearing-impaired persons who have received audiometric testing is quite similar to those for persons with testing by a medical doctor or specialist. Not only had more of the younger people had their hearing tested at some time, and not only had they been given more hearing tests by a medical doctor, but more of them had also had an audiometric examination than had the older persons with impaired hearing. Furthermore, while 33.7 percent of the group reported they had never had their hearing tested by a medical doctor (table 19), an even larger proportion, 46.8 percent, reported they had never had an audiometric examination (table 21). Because the term "audiometric test" has a very specialized meaning, it may not have been fully understood by all respondents. For this reason, the patterns shown are more valid than the separate estimates.

Some indication of the general validity and consistency of the data on medical and audiometric testing is given in table 22. About 71.5 percent of those who reported testing by a medical specialist also reported having received an audiometric examination, while only 15 percent of those who reported that they never had been tested by a medical doctor reported they had been given an audiometric examination.

ASSOCIATED VISUAL IMPAIRMENT

Since visual acuity is an important factor in the training, care, and rehabilitation of persons with hearing impairment, the frequency of occurrence of visual impairment among the hearing-impaired population is of considerable interest.

Of the 4,085,000 persons with binaural hearing loss about 222,000, or 5.4 percent, were reported to have a severe visual impairment (unable to see well enough to read ordinary newspaper print even when wearing glasses), and an additional 12.1 percent reported some lesser degree of impairment (see table 23). Most of the cases of impaired vision occurred among persons 65 years of age and older. Among those with impaired hearing the proportion of persons with impaired vision in this age group (about 8.8 percent with severe visual impairment and 17.7 percent, other visual impairment) was considerably higher than in any of the other age groups. These percentages indicate that about one-fourth of the persons 65 years and older who have a hearing impairment also have some degree of visual impairment.

Table K. Estimated percentage of the adult population by gradation of hearing handicap: United States, 1960-62

Average hearing level for 500, 1,000, and 2,000 cycles per second in the better ear[1]	Ability to understand speech	Percentage[2]
Total, 30 dB or higher	----------	2.7
30-44 dB	Frequent difficulty with normal speech	1.6
45-59 dB	Frequent difficulty with loud speech	1.1
60-79 dB	Understands only shouted or amplified speech	
80+ dB	Usually cannot understand even amplified speech	

[1] Estimated hearing level for speech re audiometric zero (1951 American Standard).

[2] Standard errors of estimate for these percentages may be obtained from Appendix II, table II, "Hearing Levels of Adults by Age and Sex," Vital and Health Statistics, Series 11, No. 11.

RELATIONSHIP TO DATA FROM THE HEALTH EXAMINATION SURVEY

Earlier, a reference was made to a publication from the Health Examination Survey, National Center for Health Statistics, that contains estimates of hearing levels of the United States population, ages 18-79 years.[2] The estimates were based on data collected by means of audiometric examinations of a representative sample of the population. For a complete understanding of the meaning and utility of the estimates of hearing ability derived from these two methods, the Health Examination Survey report should also be read. Here only the major similarities and differences between the two sets of data can be pointed out.

It is always interesting if somewhat difficult to compare information which has been obtained by different methods of data collection. A unique opportunity to investigate levels of hearing impairment as measured by two different methods was provided by the standardized audiometric examinations conducted in the Health Examination Survey and the interview responses obtained in the Health Interview Survey.

Care must be taken in comparing the figures from these two sources. Not only is there a difference in the means of obtaining the data but also in the way in which the results are expressed. The Health Examination Survey reports its estimates in decibel deviations from normal threshold, since the data were gathered in that form. The Health Interview Survey presents estimates by categories which characterize the handicap the respondent indicated. In a strict sense, then, no direct comparison between the estimates from these two sources can be made. However, in the analysis of the material in the Health Examination Survey an attempt was made to relate hearing levels to speech comprehension. Using a classification developed by the Committee on Conservation of Hearing of the American Academy of Ophthalmology and Otolaryngology, the Health Examination Survey arrived at the estimates shown in table K.

Bearing in mind the limitations of such comparisons, one can relate the 2.7 percent of the adults in the Health Examination Survey (table K) who were reported to have 30 decibels or more loss ("Frequent difficulty with normal speech" through "Usually cannot understand even amplified speech") as compared with 2.7 percent (table L) defined in the household interview to have a binaural hearing loss. The two estimates, Table L. Percent of persons aged 18-79 years with specified speech comprehension based on responses to hearing scale used in the Health Interview Survey: United States, July 1962-June 1963

Speech comprehension group	Percent of adults
Total	2.7
Can hear and understand most spoken words	1.7
Can hear and understand a few spoken words	1.0
Cannot hear and understand spoken words	

though similar, may, however, arise from different factors. Nonetheless, both studies can gain support from the fact that their independent estimates of prevalence differ so slightly (see sampling errors for these estimates). There is a strong likelihood that the true prevalence of hearing impairment of this degree is not far from a rate of 2.7 per 100 adults.

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23. Number and percent distribution of persons with a binaural hearing impairment, by visual impairment according to age and speech comprehension group: United States, July 1962-June 1963--- 43

Table 1. Number of persons and number of persons per 1,000 population who were reported in the interview to have a hearing impairment in one or both ears, by speech comprehension group, sex, and age: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Sex and age	Impairment in one or both ears	Persons with a binaural hearing impairment[1]				Persons with hearing impairment in only one ear	Persons who reported no impairment of hearing on the supplement	Non-response
		Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words			
	Number of persons in thousands							
Both sexes								
All ages	8,005	4,085	856	736	2,439	2,470	647	804
Under 17 years	529	229	52	* (36)	137	183	60	57
17-44 years	1,580	542	107	110	320	716	128	194
45-64 years	2,391	1,087	227	201	647	855	209	239
65 years and over	3,505	2,226	469	389	1,335	715	250	314
Male								
All ages	4,411	2,264	419	378	1,446	1,302	394	451
Under 17 years	280	122	* (28)	* (18)	74	100	* (30)	* (28)
17-44 years	906	290	51	54	183	417	85	115
45-64 years	1,429	686	117	126	439	445	147	151
65 years and over	1,796	1,165	223	180	749	340	133	157
Female								
All ages	3,595	1,821	436	358	993	1,168	253	353
Under 17 years	249	107	* (24)	* (18)	62	83	* (31)	* (29)
17-44 years	674	253	56	56	137	299	* (43)	79
45-64 years	961	401	110	75	208	410	62	88
65 years and over	1,709	1,061	246	210	586	375	117	157
	Number of persons per 1,000 population							
Both sexes								
All ages	43.7	22.3	4.7	4.0	13.3	13.5	3.5	4.4
Under 17 years	8.1	3.5	0.8	* (0.6)	2.1	2.8	0.9	0.9
17-44 years	24.6	8.4	1.7	1.7	5.0	11.1	2.0	3.0
45-64 years	64.6	29.4	6.1	5.4	17.5	23.1	5.7	6.5
65 years and over	207.8	132.0	27.8	23.1	79.2	42.4	14.8	18.6
Male								
All ages	49.7	25.5	4.7	4.3	16.3	14.7	4.4	5.1
Under 17 years	8.5	3.7	* (0.8)	* (0.5)	2.2	3.0	* (0.9)	* (0.8)
17-44 years	29.8	9.5	1.7	1.8	6.0	13.7	2.8	3.8
45-64 years	79.9	38.4	6.5	7.0	24.5	24.9	8.2	8.4
65 years and over	239.1	155.1	29.7	24.0	99.7	45.3	17.7	20.9
Female								
All ages	38.1	19.3	4.6	3.8	10.5	12.4	2.7	3.7
Under 17 years	7.8	3.3	* (0.8)	* (0.6)	1.9	2.6	* (1.0)	* (0.9)
17-44 years	19.9	7.5	1.7	1.7	4.0	8.8	* (1.3)	2.3
45-64 years	50.3	21.0	5.8	3.9	10.9	21.5	3.2	4.6
65 years and over	182.7	113.4	26.3	22.4	62.6	40.1	12.5	16.8

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[1] Without the use of a hearing aid.

[2] Includes 54,000 persons whose functional degree of hearing impairment was unknown.

Table 2. Number of persons and number of persons per 1,000 population with a binaural hearing impairment, by speech comprehension group, age, and family income: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Age and family income	Persons with a binaural hearing impairment[1]							
	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands				Number of persons per 1,000 population			
All ages								
All incomes	4,085	856	736	2,439	22.3	4.7	4.0	13.3
Under $2,000	1,281	314	248	695	56.7	13.9	11.0	30.8
$2,000-$3,999	960	185	164	597	29.6	5.7	5.0	18.4
$4,000-$6,999	867	154	152	550	14.1	2.5	2.5	8.9
$7,000 and over	753	155	134	464	13.2	2.7	2.3	8.1
Unknown	223	* (47)	* (38)	133	23.9	* (5.0)	* (4.1)	14.3
Under 45 years								
All incomes	771	159	146	457	6.0	1.2	1.1	3.5
Under $2,000	103	* (36)	* (19)	* (46)	8.7	* (3.0)	* (1.6)	* (3.9)
$2,000-$3,999	174	* (43)	* (28)	102	8.0	* (2.0)	* (1.3)	4.7
$4,000-$6,999	258	* (42)	50	163	5.4	* (0.9)	1.0	3.4
$7,000 and over	194	* (24)	* (46)	124	4.6	* (0.6)	* (1.1)	2.9
Unknown	* (41)	* (15)	* (2)	* (21)	* (7.2)	* (2.6)	* (0.4)	* (3.7)
45-64 years								
All incomes	1,087	227	201	647	29.4	6.1	5.4	17.5
Under $2,000	235	63	59	109	50.5	13.5	12.7	23.4
$2,000-$3,999	234	53	* (36)	139	37.0	8.4	* (5.7)	22.0
$4,000-$6,999	273	* (36)	51	184	25.0	* (3.3)	4.7	16.8
$7,000 and over	285	62	* (48)	175	22.6	4.9	* (3.8)	13.9
Unknown	60	* (13)	* (8)	* (39)	24.6	* (5.3)	* (3.3)	* (16.0)
65 years and over								
All incomes	2,226	469	389	1,335	132.0	27.8	23.1	79.2
Under $2,000	943	215	171	539	156.1	35.6	28.3	89.2
$2,000-$3,999	553	90	99	356	126.0	20.5	22.6	81.1
$4,000-$6,999	335	75	51	202	114.3	25.6	17.4	68.9
$7,000 and over	274	70	* (40)	165	117.9	30.1	* (17.2)	71.0
Unknown	122	* (19)	* (28)	73	103.1	* (16.1)	* (23.7)	61.7

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[1] Without the use of a hearing aid.

[2] Includes 54,000 persons whose functional degree of hearing impairment was unknown.

Table 3. Number of persons and number of persons per 1,000 population with a binaural hearing impairment, by speech comprehension group, age, and educational attainment: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Age and educational attainment	Persons with a binaural hearing impairment[1]							
	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands				Number of persons per 1,000 population			
All ages								
All educational groups--	4,085	856	736	2,439	22.3	4.7	4.0	13.3
Under 17 years								
All educational groups--	229	52	* (36)	137	3.5	0.8	* (0.6)	2.1
17 years and over								
All educational groups--	3,856	804	700	2,302	32.6	6.8	5.9	19.5
Under 9 years----------------	2,171	488	393	1,256	52.2	11.7	9.4	30.2
9-12 years-------------------	1,159	205	214	728	22.4	4.0	4.1	14.1
13 years and over-----------	387	74	64	249	17.5	3.3	2.9	11.3
Unknown---------------------	139	* (37)	* (29)	68	52.7	* (14.0)	* (11.0)	25.8
17-44 years								
All educational groups--	542	107	110	320	8.4	1.7	1.7	5.0
Under 9 years----------------	145	* (40)	* (28)	76	8.9	* (2.4)	* (1.7)	4.6
9-12 years-------------------	320	54	68	194	9.8	1.6	2.1	5.9
13 years and over-----------	71	* (12)	* (11)	* (48)	5.0	* (0.8)	* (0.8)	* (3.4)
Unknown---------------------	* (5)	* (1)	* (3)	* (1)	* (4.8)	* (1.0)	* (2.9)	* (1.0)
45-64 years								
All educational groups--	1,087	227	201	647	29.4	6.1	5.4	17.5
Under 9 years----------------	609	147	122	330	39.0	9.4	7.8	21.1
9-12 years-------------------	353	59	50	242	24.5	4.1	3.5	16.8
13 years and over-----------	111	* (18)	* (24)	69	18.6	* (3.0)	* (4.0)	11.6
Unknown---------------------	* (14)	* (4)	* (5)	* (6)	* (14.1)	* (4.0)	* (5.0)	* (6.0)
65 years and over								
All educational groups--	2,226	469	389	1,335	132.0	27.8	23.1	79.2
Under 9 years----------------	1,416	301	243	850	147.1	31.3	25.2	88.3
9-12 years-------------------	486	92	96	292	104.9	19.9	20.7	63.0
13 years and over-----------	205	* (44)	* (29)	131	102.9	* (22.1)	* (14.6)	65.7
Unknown---------------------	119	* (32)	* (22)	61	194.4	* (52.3)	* (35.9)	99.7

[1] Without the use of a hearing aid.

[2] Includes 54,000 persons whose functional degree of hearing impairment was unknown.

Table 4. Number of persons and number of persons per 1,000 population with a binaural hearing impairment, by speech comprehension group, age, and color: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Age and color	Persons with a binaural hearing impairment[1]							
	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands				Number of persons per 1,000 population			
All ages								
All persons	4,085	856	736	2,439	22.3	4.7	4.0	13.3
White	3,762	783	685	2,245	23.3	4.8	4.2	13.9
Nonwhite	323	72	51	194	15.1	3.4	2.4	9.1
Under 45 years								
All persons	771	159	146	457	6.0	1.2	1.1	3.5
White	681	130	133	411	6.0	1.2	1.2	3.6
Nonwhite	90	* (29)	* (13)	* (46)	5.4	* (1.7)	* (0.8)	* (2.8)
45-64 years								
All persons	1,087	227	201	647	29.4	6.1	5.4	17.5
White	1,006	207	186	603	30.0	6.2	5.6	18.0
Nonwhite	81	* (21)	* (15)	* (44)	23.2	* (6.0)	* (4.3)	* (12.6)
65 years and over								
All persons	2,226	469	389	1,335	132.0	27.8	23.1	79.2
White	2,075	446	367	1,231	133.4	28.7	23.6	79.1
Nonwhite	152	* (23)	* (22)	104	116.0	* (17.6)	* (16.8)	79.4

[1] Without the use of a hearing aid.

[2] Includes 54,000 persons whose functional degree of hearing impairment was unknown.

Table 5. Number of persons and number of persons per 1,000 population with a binaural hearing impairment, by speech comprehension group, age, and residence: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Age and residence	Persons with a binaural hearing impairment[1]							
	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
All ages	Number of persons in thousands				Number of persons per 1,000 population			
All residences----------	4,085	856	736	2,439	22.3	4.7	4.0	13.3
Urban-------------------------	2,494	543	453	1,470	19.6	4.3	3.6	11.6
Rural nonfarm-----------------	1,165	228	192	721	27.4	5.4	4.5	17.0
Rural farm--------------------	426	85	91	247	31.4	6.3	6.7	18.2
Under 45 years								
All residences----------	771	159	146	457	6.0	1.2	1.1	3.5
Urban-------------------------	474	109	93	270	5.3	1.2	1.0	3.0
Rural nonfarm-----------------	221	* (36)	* (33)	146	7.2	* (1.2)	* (1.1)	4.7
Rural farm--------------------	76	* (14)	* (20)	* (41)	8.4	* (1.5)	* (2.2)	* (4.5)
45-64 years								
All residences----------	1,087	227	201	647	29.4	6.1	5.4	17.5
Urban-------------------------	671	135	125	408	25.7	5.2	4.8	15.6
Rural nonfarm-----------------	266	54	* (43)	159	34.6	7.0	* (5.6)	20.7
Rural farm--------------------	151	* (38)	* (33)	80	47.3	* (11.9)	* (10.3)	25.1
65 years and over								
All residences----------	2,226	469	389	1,335	132.0	27.8	23.1	79.2
Urban-------------------------	1,348	298	235	792	115.5	25.5	20.1	67.9
Rural nonfarm-----------------	678	138	116	415	172.7	35.2	29.6	105.7
Rural farm--------------------	200	* (33)	* (38)	127	156.9	* (25.9)	* (29.8)	99.6

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[1] Without the use of a hearing aid.

[2] Includes 54,000 persons whose functional degree of hearing impairment was unknown.

Table 6. Number of persons and number of persons per 1,000 population with a binaural hearing impairment, by speech comprehension group, age, and geographic region: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Age and region	Persons with a binaural hearing impairment[1]							
	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands				Number of persons per 1,000 population			
All ages								
All regions	4,085	856	736	2,439	22.3	4.7	4.0	13.3
Northeast	712	176	113	416	15.6	3.8	2.5	9.1
North Central	1,200	245	206	740	22.8	4.6	3.9	14.0
South	1,460	293	297	841	26.2	5.3	5.3	15.1
West	713	141	120	442	24.5	4.9	4.1	15.2
Under 45 years								
All regions	771	159	146	457	6.0	1.2	1.1	3.5
Northeast	136	* (36)	* (19)	81	4.3	* (1.1)	* (0.6)	2.6
North Central	192	* (33)	* (46)	111	5.2	* (0.9)	* (1.2)	3.0
South	294	69	57	163	7.4	1.7	1.4	4.1
West	149	* (21)	* (23)	102	7.1	* (1.0)	* (1.1)	4.8
45-64 years								
All regions	1,087	227	201	647	29.4	6.1	5.4	17.5
Northeast	206	52	* (36)	116	20.9	5.3	* (3.6)	11.8
North Central	312	67	57	188	29.2	6.3	5.3	17.6
South	375	76	73	220	34.2	6.9	6.7	20.1
West	193	* (32)	* (36)	123	35.1	* (5.8)	* (6.6)	22.4
65 years and over								
All regions	2,226	469	389	1,335	132.0	27.8	23.1	79.2
Northeast	370	88	59	219	84.6	20.1	13.5	50.1
North Central	695	145	102	440	132.9	27.7	19.5	84.1
South	791	147	167	458	164.4	30.6	34.7	95.2
West	370	88	61	217	150.8	35.9	24.9	88.4

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[1] Without the use of a hearing aid.

[2] Includes 54,000 persons whose functional degree of hearing impairment was unknown.

Table 7. Number and percent distribution of all persons with a binaural hearing impairment, by hearing aid use according to age and family income: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Age and family income	Total[1,2]	Hearing aid use				
		Total persons	Present user	Former user	Present use unknown	Never had or unknown
All ages	Number of persons in thousands	Percent distribution				
All incomes	4,085	100.0	21.6	5.9	2.2	70.3
Under $2,000	1,281	100.0	17.2	7.5	* (2.3)	73.1
$2,000-$3,999	960	100.0	19.5	* (2.9)	* (2.3)	75.3
$4,000-$6,999	867	100.0	21.5	5.9	* (2.3)	70.2
$7,000 and over	753	100.0	30.9	7.0	* (2.0)	60.2
Unknown	223	100.0	25.1	* (6.7)	* (1.3)	66.8
Under 45 years						
All incomes	771	100.0	18.9	* (4.3)	* (1.3)	75.5
Under $2,000	103	100.0	* (10.7)	-	* (1.0)	88.3
$2,000-$3,999	174	100.0	* (12.6)	* (2.3)	* (0.6)	84.5
$4,000-$6,999	258	100.0	* (19.0)	* (4.7)	* (1.9)	74.4
$7,000 and over	194	100.0	27.8	* (8.2)	* (1.5)	62.9
Unknown	* (41)	100.0	* (24.4)	* (2.4)	-	* (73.2)
45-64 years						
All incomes	1,087	100.0	22.4	4.7	* (1.4)	71.6
Under $2,000	235	100.0	* (14.5)	* (8.1)	* (1.3)	76.2
$2,000-$3,999	234	100.0	* (18.4)	* (2.6)	* (2.6)	76.5
$4,000-$6,999	273	100.0	22.7	* (2.9)	* (0.4)	74.4
$7,000 and over	285	100.0	29.8	* (4.9)	* (1.8)	63.2
Unknown	60	100.0	* (31.7)	* (6.7)	-	* (61.7)
65 years and over						
All incomes	2,226	100.0	22.1	7.2	2.9	63.6
Under $2,000	943	100.0	18.6	8.2	* (2.7)	70.6
$2,000-$3,999	553	100.0	22.1	* (3.4)	* (2.7)	71.8
$4,000-$6,999	335	100.0	22.4	* (9.3)	* (4.2)	64.2
$7,000 and over	274	100.0	33.9	* (8.4)	* (2.6)	55.1
Unknown	122	100.0	* (22.1)	* (8.2)	* (2.5)	67.2

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[1] Without the use of a hearing aid.

[2] Includes 54,000 persons whose functional degree of hearing impairment was unknown.

Table 8. Number and percent distribution of persons with a binaural hearing impairment who cannot hear and understand spoken words, by hearing aid use according to age and family income: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Age and family income	Total[1]	Hearing aid use				
		Total persons	Present user	Former user	Present use unknown	Never had or unknown
	Number of persons in thousands	Percent distribution				
All ages						
All incomes	856	100.0	42.8	8.6	* (3.3)	45.3
Under $2,000	314	100.0	30.9	* (10.5)	* (2.9)	56.1
$2,000-$3,999	185	100.0	39.5	* (4.9)	* (3.8)	51.4
$4,000-$6,999	154	100.0	48.7	* (9.7)	* (3.2)	38.3
$7,000 and over	155	100.0	63.2	* (9.7)	* (3.2)	* (23.9)
Unknown	* (47)	100.0	* (46.8)	* (4.3)	* (2.1)	* (44.7)
Under 45 years						
All incomes	159	100.0	40.3	* (1.9)	* (1.3)	56.6
Under $2,000	* (36)	100.0	* (13.9)	-	-	* (86.1)
$2,000-$3,999	* (43)	100.0	* (25.6)	* (7.0)	* (2.3)	* (62.8)
$4,000-$6,999	* (42)	100.0	* (45.2)	-	* (2.4)	* (52.4)
$7,000 and over	* (24)	100.0	* (83.3)	-	-	* (16.7)
Unknown	* (15)	100.0	* (53.3)	-	-	* (40.0)
45-64 years						
All incomes	227	100.0	48.9	* (9.7)	* (4.0)	37.9
Under $2,000	63	100.0	* (31.7)	* (15.9)	* (1.6)	* (50.8)
$2,000-$3,999	53	100.0	* (43.4)	* (1.9)	* (7.5)	* (47.2)
$4,000-$6,999	* (36)	100.0	* (61.1)	* (11.1)	-	* (27.8)
$7,000 and over	62	100.0	* (66.1)	* (6.5)	* (6.5)	* (21.0)
Unknown	* (13)	100.0	* (38.5)	* (15.4)	-	* (38.5)
65 years and over						
All incomes	469	100.0	40.7	10.7	* (3.6)	45.2
Under $2,000	215	100.0	33.5	* (10.7)	* (3.7)	52.6
$2,000-$3,999	90	100.0	* (43.3)	* (5.6)	* (2.2)	* (47.8)
$4,000-$6,999	75	100.0	* (45.3)	* (14.7)	* (5.3)	* (36.0)
$7,000 and over	70	100.0	* (54.3)	* (15.7)	* (1.4)	* (27.1)
Unknown	* (19)	100.0	* (42.1)	-	* (5.3)	* (52.6)

[1] Without the use of a hearing aid.

Table 9. Number and percent distribution of persons with a binaural hearing impairment who can hear and understand a few spoken words, by hearing aid use according to age and family income: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Age and family income	Total[1]	Hearing aid use				
		Total persons	Present user	Former user	Present use unknown	Never had or unknown
All ages	Number of persons in thousands	Percent distribution				
All incomes	736	100.0	28.7	8.3	* (3.0)	60.1
Under $2,000	248	100.0	* (18.5)	* (8.9)	* (3.6)	69.0
$2,000-$3,999	164	100.0	* (29.9)	* (3.7)	* (3.0)	63.4
$4,000-$6,999	152	100.0	* (28.3)	* (9.2)	* (3.3)	59.2
$7,000 and over	134	100.0	470	* (11.2)	* (0.7)	41.0
Unknown	* (38)	100.0	* (26.3)	* (10.5)	* (2.6)	* (57.9)
Under 45 years						
All incomes	146	100.0	* (30.8)	* (11.0)	* (2.7)	55.5
Under $2,000	* (19)	100.0	* (21.1)	-	* (5.3)	* (68.4)
$2,000-$3,999	* (28)	100.0	* (21.4)	-	-	* (82.1)
$4,000-$6,999	50	100.0	* (26.0)	* (16.0)	* (2.0)	* (56.0)
$7,000 and over	* (46)	100.0	* (50.0)	* (17.4)	* (2.2)	* (30.4)
Unknown	* (2)	100.0	-	-	-	* (100.0)
45-64 years						
All incomes	201	100.0	36.3	* (4.5)	* (0.5)	58.7
Under $2,000	59	100.0	* (18.6)	* (5.1)	-	* (76.3)
$2,000-$3,999	* (36)	100.0	* (33.3)	-	* (2.8)	* (63.9)
$4,000-$6,999	51	100.0	* (43.1)	* (3.9)	-	* (52.9)
$7,000 and over	* (48)	100.0	* (47.9)	* (8.3)	-	* (45.8)
Unknown	* (8)	100.0	* (62.5)	* (12.5)	-	* (12.5)
65 years and over						
All incomes	389	100.0	24.2	* (9.3)	* (4.4)	62.5
Under $2,000	171	100.0	* (18.1)	* (11.1)	* (4.7)	66.1
$2,000-$3,999	99	100.0	* (31.3)	* (6.1)	* (4.0)	58.6
$4,000-$6,999	51	100.0	* (15.7)	* (9.8)	* (7.8)	* (68.6)
$7,000 and over	* (40)	100.0	* (45.0)	* (7.5)	-	* (47.5)
Unknown	* (28)	100.0	* (17.9)	* (10.7)	* (3.6)	* (67.9)

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[1] Without the use of a hearing aid.

Table 10. Number and percent distribution of persons with a binaural hearing impairment who can hear and understand most spoken words, by hearing aid use according to age and family income: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Age and family income	Total[1]	Hearing aid use				
		Total persons	Present user	Former user	Present use unknown	Never had or unknown
All ages	Number of persons in thousands	Percent distribution				
All incomes	2,439	100.0	12.3	4.4	* (1.5)	81.8
Under $2,000	695	100.0	10.9	* (6.0)	* (1.4)	81.7
$2,000-$3,999	597	100.0	10.6	* (2.0)	* (1.7)	85.8
$4,000-$6,999	550	100.0	12.2	* (3.8)	* (1.6)	82.2
$7,000 and over	464	100.0	15.3	* (5.0)	* (1.7)	78.0
Unknown	133	100.0	* (18.0)	* (6.0)	-	75.9
Under 45 years						
All incomes	457	100.0	* (7.9)	* (3.1)	* (0.7)	88.2
Under $2,000	* (46)	100.0	* (2.2)	-	-	* (97.8)
$2,000-$3,999	102	100.0	* (3.9)	* (1.0)	-	94.1
$4,000-$6,999	163	100.0	* (11.0)	* (2.5)	* (0.6)	85.9
$7,000 and over	124	100.0	* (8.9)	* (6.5)	* (0.8)	83.9
Unknown	* (21)	100.0	* (4.8)	* (4.8)	-	* (85.7)
45-64 years						
All incomes	647	100.0	9.3	* (3.1)	* (0.6)	87.2
Under $2,000	109	100.0	* (3.7)	* (5.5)	-	90.8
$2,000-$3,999	139	100.0	* (5.8)	* (2.9)	* (0.7)	90.6
$4,000-$6,999	184	100.0	* (9.2)	* (1.1)	* (0.5)	88.6
$7,000 and over	175	100.0	* (12.6)	* (3.4)	* (0.6)	82.9
Unknown	* (39)	100.0	* (23.1)	-	-	* (76.9)
65 years and over						
All incomes	1,335	100.0	15.4	5.5	* (2.2)	76.9
Under $2,000	539	100.0	13.2	* (6.5)	* (1.9)	78.7
$2,000-$3,999	356	100.0	14.3	* (1.7)	* (2.5)	81.5
$4,000-$6,999	202	100.0	* (15.8)	* (7.4)	* (3.5)	73.3
$7,000 and over	165	100.0	* (22.4)	* (5.5)	* (3.6)	68.5
Unknown	73	100.0	* (19.2)	* (9.6)	-	71.2

[1] Without the use of a hearing aid.

Table 11. Number and percent distribution of persons with a binaural hearing impairment who have ever used a hearing aid, by basis for selecting aid according to speech comprehension group: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Basis for selecting aid	Persons who have ever used an aid			
	Total[1,2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands			
All persons	1,214	468	294	444
	Percent distribution			
All bases	100.0	100.0	100.0	100.0
Prescribed by doctor	12.9	16.7	* (10.5)	* (11.0)
Prescribed by clinic	18.1	15.8	21.4	18.2
Advised by dealer	33.7	29.9	35.7	36.5
Saw it advertised	7.8	* (7.1)	* (7.1)	* (9.2)
Recommended by friend or relative	11.9	13.0	* (10.5)	11.5
Other and unknown	15.7	17.5	* (14.3)	13.5

[1] Includes persons whose functional degree of hearing impairment was unknown.

[2] Without the use of a hearing aid.

Table 12. Number and percent distribution of persons with a binaural hearing impairment who have ever used a hearing aid, by type of aid used according to speech comprehension group: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Type of aid	Persons who have ever used an aid			
	Total[1,2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands			
All persons	1,214	468	294	444
	Percent distribution			
All types	100.0	100.0	100.0	100.0
Monaural, air conduction, ear	33.0	28.0	36.4	36.9
Monaural, air conduction, body	44.2	53.2	43.9	35.6
Binaural, air conduction	8.2	* (7.5)	* (8.5)	* (9.0)
Bone conduction	4.6	* (4.5)	* (4.8)	* (4.7)
Unknown	9.9	* (6.8)	* (6.8)	14.0

[1] Includes persons whose functional degree of hearing impairment was unknown.

[2] Without the use of a hearing aid.

Table 13. Number and percent distribution of persons with a binaural hearing impairment who have ever used a hearing aid, by degree of satisfaction with the aid according to sex and speech comprehension group: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Sex and degree of satisfaction with hearing aid	Persons who have ever used an aid			
	Total[1,2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands			
Both sexes	1,214	468	294	444
Male	625	210	134	274
Female	590	258	160	170
	Percent distribution			
Both sexes				
All degrees	100.0	100.0	100.0	100.0
Very satisfied	32.5	37.6	28.6	30.0
Fairly satisfied	29.0	30.3	32.3	25.7
Not satisfied	9.1	* (8.3)	* (9.9)	* (9.7)
Not currently using aid	27.4	21.8	28.2	32.4
Unknown	* (2.1)	* (1.7)	* (1.4)	* (2.3)
Male				
All degrees	100.0	100.0	100.0	100.0
Very satisfied	28.0	31.0	* (22.4)	29.2
Fairly satisfied	29.9	36.7	* (32.8)	23.7
Not satisfied	9.9	* (9.5)	* (12.7)	* (9.1)
Not currently using aid	30.4	* (21.4)	* (29.9)	37.2
Unknown	* (1.8)	* (1.4)	* (2.2)	* (1.1)
Female				
All degrees	100.0	100.0	100.0	100.0
Very satisfied	36.9	43.0	33.8	31.8
Fairly satisfied	28.0	25.6	31.3	* (28.8)
Not satisfied	* (8.3)	* (7.4)	* (7.5)	* (10.6)
Not currently using aid	24.2	22.1	* (26.9)	* (24.1)
Unknown	* (2.4)	* (2.3)	* (0.6)	* (4.1)

[1] Includes persons whose functional degree of hearing impairment was unknown.

[2] Without the use of a hearing aid.

Table 14. Number and percent distribution of persons with a binaural hearing impairment currently using a hearing aid, by amount of hearing aid use according to sex and speech comprehension group: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Sex and amount of hearing aid use	Persons currently using an aid			
	Total[1]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands			
Both sexes	882	366	211	301
Male	435	165	94	172
Female	447	201	117	128
Both sexes	Percent distribution			
All degrees of use	100.0	100.0	100.0	100.0
Constant	56.8	65.6	57.8	46.2
Moderate	26.5	18.6	29.4	34.9
Negligible	5.8	* (4.1)	* (7.1)	* (6.6)
Unknown	10.8	* (12.0)	* (6.2)	* (12.0)
Male				
All degrees of use	100.0	100.0	100.0	100.0
Constant	51.7	57.0	58.5	44.2
Moderate	29.4	* (24.8)	* (25.5)	36.6
Negligible	* (5.7)	* (3.0)	* (6.4)	* (7.0)
Unknown	13.1	* (15.2)	* (9.6)	* (12.2)
Female				
All degrees of use	100.0	100.0	100.0	100.0
Constant	61.7	72.6	57.3	49.2
Moderate	23.7	* (13.4)	* (32.5)	32.8
Negligible	* (5.8)	* (4.5)	* (7.7)	* (6.3)
Unknown	* (8.7)	* (9.5)	* (3.4)	* (12.5)

[1] Without the use of a hearing aid.

Table 15. Number and percent distribution of persons with a binaural hearing impairment, by age at onset of hearing impairment according to present age and speech comprehension group: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Present age and age at onset of hearing impairment	Persons with a binaural hearing impairment[1]							
	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands				Percent distribution			
Present age—all ages---	4,085	856	736	2,439	100.0	100.0	100.0	100.0
Age at onset:								
Under 17 years------------	843	231	157	450	20.6	27.0	21.3	18.5
17-44 years---------------	1,022	250	219	547	25.0	29.2	29.8	22.4
45-64 years---------------	968	177	157	627	23.7	20.7	21.3	25.7
65 years and over---------	809	134	160	508	19.8	15.7	21.7	20.8
Unknown-------------------	443	64	* (43)	307	10.8	7.5	* (5.8)	12.6
Present age—under 17 years------------------	229	52	* (36)	137	100.0	100.0	* (100.0)	100.0
Age at onset:								
Under 17 years------------	229	52	* (36)	137	100.0	100.0	* (100.0)	100.0
Present age—17-44 years------------------	542	107	110	320	100.0	100.0	100.0	100.0
Age at onset:								
Under 17 years------------	278	74	53	150	51.3	69.2	48.2	46.9
17-44 years---------------	245	* (28)	55	161	45.2	26.2	50.0	50.3
Unknown-------------------	* (19)	* (6)	* (1)	* (9)	* (3.5)	* (5.6)	* (0.9)	* (2.8)
Present age—45-64 years------------------	1,087	227	201	647	100.0	100.0	100.0	100.0
Age at onset:								
Under 17 years------------	210	66	* (40)	102	19.3	29.1	* (19.9)	15.8
17-44 years---------------	447	115	97	232	41.1	50.7	48.3	35.9
45-64 years---------------	359	* (40)	56	260	33.0	* (17.6)	27.9	40.2
Unknown-------------------	71	* (6)	* (8)	53	6.5	* (2.6)	* (4.0)	8.2
Present age—65 years and over---------------	2,226	469	389	1,335	100.0	100.0	100.0	100.0
Age at onset:								
Under 17 years------------	139	* (39)	* (28)	71	6.2	* (8.3)	* (7.2)	5.3
17-44 years---------------	329	107	67	154	14.8	22.8	17.2	11.5
45-64 years---------------	613	137	104	368	27.5	29.2	26.7	27.6
65 years and over---------	805	134	157	507	36.2	28.6	40.4	38.0
Unknown-------------------	341	52	* (34)	235	15.3	11.1	* (8.7)	17.6

[1] Without the use of a hearing aid.

[2] Includes 54,000 persons whose functional degree of hearing impairment was unknown.

Table 16. Number and percent distribution of persons with a binaural hearing impairment, by cause of hearing impairment according to age at onset and speech comprehension group: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Age at onset and cause of hearing impairment	Persons with a binaural hearing impairment[1]			
	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands			
All ages	4,085	856	736	2,439
Under 6 years	337	131	58	148
6-16 years	506	100	100	302
17-44 years	1,022	250	219	547
45-64 years	968	177	157	627
65 years and over	809	134	160	508
Unknown age	443	64	* (43)	307
	Percent distribution			
All ages				
All causes	100.0	100.0	100.0	100.0
Illness	20.9	26.2	20.4	19.4
Accident	13.5	12.9	14.3	13.7
Hereditary or congenital	4.0	6.4	* (4.8)	3.0
Presbycusis	4.9	* (3.0)	* (3.4)	6.1
Unknown	39.9	36.4	43.6	40.1
Other and nonresponse	16.8	15.0	13.6	17.8
Under 6 years				
All causes	100.0	100.0	100.0	100.0
Illness	33.2	* (29.8)	* (34.5)	35.8
Accident	* (6.5)	* (9.9)	* (3.4)	* (4.1)
Hereditary or congenital	24.9	* (29.8)	* (24.1)	* (20.9)
Presbycusis	...	...	...	...
Unknown	19.3	* (15.3)	* (24.1)	* (20.9)
Other and nonresponse	16.0	* (16.0)	* (12.1)	* (17.6)
6-16 years				
All causes	100.0	100.0	100.0	100.0
Illness	41.7	* (43.0)	* (43.0)	41.1
Accident	11.5	* (11.0)	* (16.0)	* (10.6)
Hereditary or congenital	* (4.0)	* (4.0)	* (5.0)	* (3.6)
Presbycusis	...	...	...	...
Unknown	30.0	* (32.0)	* (21.0)	31.8
Other and nonresponse	12.8	* (10.0)	* (15.0)	* (12.9)

See footnotes at end of table.

Table 16. Number and percent distribution of persons with a binaural hearing impairment, by cause of hearing impairment according to age at onset and speech comprehension group: United States, July 1962-June 1963—Con.

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Age at onset and cause of hearing impairment	Persons with a binaural hearing impairment[1]			
	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Percent distribution			
17-44 years				
All causes	100.0	100.0	100.0	100.0
Illness	24.1	31.6	* (21.0)	21.9
Accident	25.8	* (17.2)	23.3	30.9
Hereditary or congenital	* (2.3)	* (0.8)	* (2.7)	* (2.6)
Presbycusis	...	...	...	...
Unknown	35.7	38.4	39.3	33.1
Other and nonresponse	12.0	* (11.6)	* (13.7)	11.5
45-64 years				
All causes	100.0	100.0	100.0	100.0
Illness	17.3	* (26.0)	* (12.1)	15.8
Accident	13.3	* (14.1)	* (12.7)	13.2
Hereditary or congenital	* (2.7)	* (5.1)	* (2.5)	* (2.1)
Presbycusis	* (3.4)	* (1.7)	* (0.6)	* (4.6)
Unknown	53.1	40.1	61.8	54.7
Other and nonresponse	10.1	* (13.0)	* (9.6)	9.6
65 years and over				
All causes	100.0	100.0	100.0	100.0
Illness	9.8	* (7.5)	* (11.3)	* (9.6)
Accident	* (6.1)	* (10.4)	* (7.5)	* (4.3)
Hereditary or congenital	* (1.0)	* (1.5)	* (1.9)	* (0.8)
Presbycusis	17.3	* (13.4)	* (13.1)	19.9
Unknown	54.1	56.0	56.3	53.1
Other and nonresponse	11.7	* (11.2)	* (10.0)	12.2
Unknown age				
All causes	100.0	100.0	100.0	100.0
Illness	* (8.4)	* (10.9)	* (9.3)	* (8.8)
Accident	* (6.5)	* (6.3)	* (9.3)	* (7.2)
Hereditary or congenital	* (0.9)	-	* (7.0)	-
Presbycusis	* (5.4)	* (7.8)	* (7.0)	* (5.5)
Unknown	21.4	* (29.7)	* (30.2)	19.2
Other and nonresponse	57.1	* (46.9)	* (37.2)	59.6

[1] Without the use of hearing aid.

[2] Includes 54,000 persons whose functional degree of hearing impairment was unknown.

Table 17. Number and percent distribution of persons with a binaural hearing impairment, by cause of hearing impairment according to sex and speech comprehension group: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Sex and cause of impairment	Persons with a binaural hearing impairment[1]			
	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands			
Both sexes	4,085	856	736	2,439
Male	2,264	419	378	1,446
Female	1,821	436	358	993
Both sexes	Percent distribution			
All causes	100.0	100.0	100.0	100.0
Illness	20.9	26.2	20.4	19.4
Accident	13.5	12.9	14.3	13.7
Hereditary or congenital	4.0	6.4	* (4.8)	3.0
Presbycusis	4.9	* (3.0)	* (3.4)	6.1
Unknown	39.9	36.4	43.6	40.1
Other and nonresponse	16.8	15.0	13.6	17.8
Male				
All causes	100.0	100.0	100.0	100.0
Illness	16.2	20.5	15.9	15.2
Accident	20.6	21.7	22.8	19.8
Hereditary or congenital	3.8	* (7.9)	* (4.8)	* (2.4)
Presbycusis	4.5	* (4.5)	* (2.9)	5.0
Unknown	40.7	32.9	41.0	43.0
Other and nonresponse	14.1	12.6	* (12.7)	14.4
Female				
All causes	100.0	100.0	100.0	100.0
Illness	26.7	31.7	24.9	25.4
Accident	4.7	* (4.4)	* (5.3)	* (4.6)
Hereditary or congenital	4.3	* (5.0)	* (5.0)	* (3.8)
Presbycusis	5.3	* (1.8)	* (3.9)	7.6
Unknown	38.8	39.9	46.6	36.0
Other and nonresponse	20.2	17.4	14.5	22.7

[1] Without the use of a hearing aid.

[2] Includes 54,000 persons whose functional degree of hearing impairment was unknown.

Table 18. Number and percent distribution of persons with a binaural hearing impairment, by specialized hearing or speech comprehension training according to age at onset and speech comprehension group: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Age at onset and specialized hearing or speech comprehension training	Persons with a binaural hearing impairment[1]			
	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands			
All ages	4,085	856	736	2,439
Under 6 years	337	131	58	148
6-16 years	506	100	100	302
17-44 years	1,022	250	219	547
45 years and over	1,777	311	317	1,134
Unknown	443	64	* (43)	307
	Percent distribution			
All ages				
Total	100.0	100.0	100.0	100.0
Training	6.0	13.8	7.9	2.8
No or unknown training	94.0	86.2	92.3	97.1
Under 6 years				
Total	100.0	100.0	100.0	100.0
Training	38.6	55.7	* (48.3)	* (19.6)
No or unknown training	61.4	44.3	* (51.7)	80.4
6-16 years				
Total	100.0	100.0	100.0	100.0
Training	10.3	* (20.0)	* (14.0)	* (5.6)
No or unknown training	89.7	80.0	86.0	94.0
17-44 years				
Total	100.0	100.0	100.0	100.0
Training	* (3.9)	* (6.0)	* (5.0)	* (2.7)
No or unknown training	96.0	94.0	95.0	97.3
45 years and over				
Total	100.0	100.0	100.0	100.0
Training	* (1.0)	* (2.3)	* (1.3)	* (0.5)
No or unknown training	99.0	97.7	98.7	99.5
Unknown				
Total	100.0	100.0	100.0	100.0
Training	* (1.4)	* (4.7)	* (2.3)	* (0.3)
No or unknown training	98.6	* (95.3)	* (95.3)	99.7

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[1] Without the use of a hearing aid.

[2] Includes 54,000 persons whose functional degree of hearing impairment was unknown.

Table 19. Number and percent distribution of persons with a binaural hearing impairment, by type of hearing examination according to age and speech comprehension group: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Age and type of hearing examination	Persons with a binaural hearing impairment[1]							
	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands				Percent distribution			
All ages								
All persons	4,085	856	736	2,439	100.0	100.0	100.0	100.0
Tested by:								
Medical specialist	1,303	369	256	672	31.9	43.1	34.8	27.6
Doctor, other than specialist	467	104	85	278	11.4	12.1	11.5	11.4
Doctor, unknown type	276	58	58	152	6.8	6.8	7.9	6.2
Never tested by medical doctor	1,378	213	236	915	33.7	24.9	32.1	37.5
Unknown if tested by medical doctor	661	112	102	422	16.2	13.1	13.9	17.3
Under 45 years								
All persons	771	159	146	457	100.0	100.0	100.0	100.0
Tested by:								
Medical specialist	373	86	80	205	48.4	54.1	54.8	44.9
Doctor, other than specialist	126	* (23)	* (15)	87	16.3	* (14.5)	* (10.3)	19.0
Doctor, unknown type	66	* (6)	* (10)	* (47)	8.6	* (3.8)	* (6.8)	* (10.3)
Never tested by medical doctor	140	* (28)	* (26)	84	18.2	* (17.6)	* (17.8)	18.4
Unknown if tested by medical doctor	67	* (16)	* (14)	* (34)	8.7	* (10.1)	* (9.6)	* (7.4)
45-64 years								
All persons	1,087	227	201	647	100.0	100.0	100.0	100.0
Tested by:								
Medical specialist	372	117	79	174	34.2	51.5	39.3	26.9
Doctor, other than specialist	137	* (24)	* (26)	88	12.6	* (10.6)	* (12.9)	13.6
Doctor, unknown type	79	* (12)	* (21)	* (45)	7.3	* (5.3)	* (10.4)	* (7.0)
Never tested by medical doctor	322	* (45)	* (47)	229	29.6	* (19.8)	* (23.4)	35.4
Unknown if tested by medical doctor	176	* (29)	* (29)	112	16.2	* (12.8)	* (14.4)	17.3
65 years and over								
All persons	2,226	469	389	1,335	100.0	100.0	100.0	100.0
Tested by:								
Medical specialist	559	165	97	293	25.1	35.2	24.9	21.9
Doctor, other than specialist	204	57	* (44)	103	9.2	12.2	* (11.3)	7.7
Doctor, unknown type	131	* (40)	* (27)	59	5.9	* (8.5)	* (6.9)	4.4
Never tested by medical doctor	916	140	163	602	41.2	29.9	41.9	45.1
Unknown if tested by medical doctor	418	67	59	277	18.8	14.3	15.2	20.7

[1] Without the use of a hearing aid.

[2] Includes 54,000 persons whose functional degree of hearing impairment was unknown.

Table 20. Number and percent distribution of persons with a binaural hearing impairment, by interval since last tested by medical doctor according to age and speech comprehension group: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Age and interval since last tested by medical doctor	Persons with a binaural hearing impairment[1]			
	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands			
All ages	4,085	856	736	2,439
Under 45 years	771	159	146	457
45-64 years	1,087	227	201	647
65 years and over	2,226	469	389	1,335
	Percent distribution			
All ages				
All intervals	100.0	100.0	100.0	100.0
Under 2 years	17.7	18.8	18.9	17.3
2-5 years	16.5	18.1	19.8	15.2
6-10 years	6.9	9.6	7.1	5.9
Over 10 years	12.4	18.6	12.8	10.3
Never tested	33.8	24.9	32.1	37.6
Unknown	12.7	10.0	9.5	13.8
Under 45 years				
All intervals	100.0	100.0	100.0	100.0
Under 2 years	32.2	32.1	* (32.2)	32.4
2-5 years	22.7	* (22.0)	* (23.3)	23.2
6-10 years	8.2	* (11.9)	* (6.2)	* (7.4)
Over 10 years	12.5	* (8.8)	* (15.1)	13.1
Never tested	18.2	* (17.6)	* (17.8)	18.4
Unknown	* (6.4)	* (7.5)	* (4.8)	* (5.5)
45-64 years				
All intervals	100.0	100.0	100.0	100.0
Under 2 years	17.8	* (17.6)	* (21.4)	17.2
2-5 years	17.2	* (18.9)	* (21.4)	15.6
6-10 years	7.3	* (7.9)	* (10.4)	* (6.0)
Over 10 years	16.4	(25.6)	* (15.4)	13.3
Never tested	29.8	* (19.8)	* (23.4)	35.5
Unknown	11.6	* (10.6)	* (8.0)	12.2
65 years and over				
All intervals	100.0	100.0	100.0	100.0
Under 2 years	12.7	14.9	* (12.3)	12.2
2-5 years	14.0	16.4	17.7	12.1
6-10 years	6.2	* (9.6)	* (5.7)	5.3
Over 10 years	10.4	18.6	* (10.3)	7.8
Never tested	41.2	29.9	41.9	45.1
Unknown	15.5	* (10.4)	* (12.3)	17.4

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[1] Without the use of a hearing aid.

[2] Includes 54,000 persons whose functional degree of hearing impairment was unknown.

Table 21. Number and percent distribution of persons with a binaural hearing impairment, by whether tested with audiometer according to age and speech comprehension group: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Age and whether tested with audiometer	Persons with a binaural hearing impairment[1]							
	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands				Percent distribution			
All ages								
All persons	4,085	856	736	2,439	100.0	100.0	100.0	100.0
Tested with audiometer	1,543	430	316	789	37.8	50.2	42.9	32.3
Not tested with audiometer	1,910	329	325	1,236	46.8	38.4	44.2	50.7
Unknown	632	97	96	414	15.5	11.3	13.0	17.0
Under 45 years								
All persons	771	159	146	457	100.0	100.0	100.0	100.0
Tested with audiometer	466	105	94	266	60.4	66.0	64.4	58.2
Not tested with audiometer	249	* (42)	* (47)	157	32.3	* (26.4)	* (32.2)	34.4
Unknown	56	* (12)	* (5)	* (34)	7.3	* (7.5)	* (3.4)	* (7.4)
45-64 years								
All persons	1,087	227	201	647	100.0	100.0	100.0	100.0
Tested with audiometer	456	139	101	213	42.0	61.2	50.2	32.9
Not tested with audiometer	484	65	72	343	44.5	28.6	35.8	53.0
Unknown	147	* (24)	* (28)	91	13.5	* (10.6)	* (13.9)	14.1
65 years and over								
All persons	2,226	469	389	1,335	100.0	100.0	100.0	100.0
Tested with audiometer	621	187	120	309	27.9	39.9	30.8	23.1
Not tested with audiometer	1,177	222	206	736	52.9	47.3	53.0	55.1
Unknown	428	61	63	289	19.2	13.0	16.2	21.6

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[1] Without the use of a hearing aid.

[2] Includes 54,000 persons whose functional degree of hearing impairment was unknown.

Table 22. Number and percent distribution of persons with a binaural hearing impairment, by whether tested with audiometer according to type of hearing examination and speech comprehension group: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Type of hearing examination and whether tested with audiometer	Persons with a binaural hearing impairment[1]							
	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands				Percent distribution			
Medical doctors, all types								
All persons	4,085	856	736	2,439	100.0	100.0	100.0	100.0
Tested with audiometer	1,543	430	316	789	37.8	50.2	42.9	32.3
Not tested with audiometer	1,910	329	325	1,236	46.8	38.4	44.2	50.7
Unknown	632	97	96	414	15.5	11.3	13.0	17.0
Medical specialist								
All persons	1,303	369	256	672	100.0	100.0	100.0	100.0
Tested with audiometer	931	271	193	462	71.5	73.4	75.4	68.8
Not tested with audiometer	292	87	* (46)	158	22.4	23.6	* (18.0)	23.5
Unknown	80	* (10)	* (17)	52	6.1	* (2.7)	* (6.6)	7.7
Medical doctor other than specialist								
All persons	467	104	85	278	100.0	100.0	100.0	100.0
Tested with audiometer	151	* (39)	* (27)	85	32.3	* (37.5)	* (31.8)	30.6
Not tested with audiometer	294	62	58	175	63.0	59.6	68.2	62.9
Unknown	* (22)	* (4)	-	* (18)	* (4.7)	* (3.8)	-	* (6.5)
Medical doctor, unknown type								
All persons	276	58	58	152	100.0	100.0	100.0	100.0
Tested with audiometer	121	* (25)	* (30)	64	43.8	* (43.1)	* (51.7)	42.1
Not tested with audiometer	122	* (27)	* (19)	72	44.2	* (46.6)	* (32.8)	47.4
Unknown	* (33)	* (7)	* (8)	* (16)	* (12.0)	* (12.1)	* (13.8)	* (10.5)
Never tested								
All persons	1,378	213	236	915	100.0	100.0	100.0	100.0
Tested with audiometer	203	59	38	106	14.7	27.7	16.1	11.6
Not tested with audiometer	1,027	133	173	712	74.5	62.4	73.3	77.8
Unknown	148	* (21)	* (25)	97	10.7	* (9.9)	* (10.6)	10.6
Unknown								
All persons	661	112	102	422	100.0	100.0	100.0	100.0
Tested with audiometer	137	* (36)	* (27)	71	20.7	* (32.1)	* (26.5)	16.8
Not tested with audiometer	175	* (21)	* (29)	120	26.5	* (18.8)	* (28.4)	28.4
Unknown	350	55	* (46)	232	53.0	49.1	* (45.1)	55.0

[1] Without the use of a hearing aid.

[2] Includes 54,000 persons whose functional degree of hearing impairment was unknown.

Table 23. Number and percent distribution of persons with a binaural hearing impairment, by visual impairment according to age and speech comprehension group: United States, July 1962-June 1963

[Data are based on household interviews and a followup mail supplement and refer to the living, civilian, noninstitutional population. The survey design and information on the reliability of the estimates are given in Appendix I. Definitions of terms are given in Appendix II]

Age and visual impairment	Persons with a binaural hearing impairment[1]							
	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words	Total[2]	Cannot hear and understand spoken words	Can hear and understand a few spoken words	Can hear and understand most spoken words
	Number of persons in thousands				Percent distribution			
All ages								
All impairments--------	4,085	856	736	2,439	100.0	100.0	100.0	100.0
Severe visual impairments[3]---	222	53	* (49)	119	5.4	6.2	* (6.7)	4.9
Other visual impairments-----	495	90	101	294	12.1	10.5	13.7	12.1
No visual impairments--------	3,368	713	586	2,026	82.4	83.3	79.6	83.1
Under 45 years								
All impairments--------	771	159	146	457	100.0	100.0	100.0	100.0
Severe visual impairments[3]---	* (2)	* (2)	-	-	* (0.3)	* (1.3)	-	-
Other visual impairments-----	* (34)	* (6)	* (9)	* (17)	* (4.4)	* (3.8)	* (6.2)	* (3.7)
No visual impairments--------	735	151	137	440	95.3	95.0	93.8	96.3
45-64 years								
All impairments--------	1,087	227	201	647	100.0	100.0	100.0	100.0
Severe visual impairments[3]---	* (25)	* (8)	* (5)	* (13)	* (2.3)	* (3.5)	* (2.5)	* (2.0)
Other visual impairments-----	68	* (16)	* (11)	* (39)	6.3	* (7.0)	* (5.5)	* (6.0)
No visual impairments--------	994	203	186	595	91.4	89.4	92.5	92.0
65 years and over								
All impairments--------	2,226	469	389	1,335	100.0	100.0	100.0	100.0
Severe visual impairments[3]---	195	* (43)	* (44)	106	8.8	* (9.2)	* (11.3)	7.9
Other visual impairments-----	393	67	82	238	17.7	14.3	21.1	17.8
No visual impairments--------	1,638	359	263	991	73.6	76.5	67.6	74.2

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[1] Without the use of a hearing aid.

[2] Includes 54,000 persons whose functional degree of hearing impairment was unknown.

[3] Defined as unable to read ordinary newspaper print even when wearing glasses.

APPENDIX I

TECHNICAL NOTES ON METHODS

Background of This Report

This report on hearing impairments is one of a series of statistical reports prepared by the National Health Survey. It is based on information collected in a continuing nationwide sample of households in the Health Interview Survey, a major part of the program.

The Health Interview Survey utilizes a basic questionnaire which obtains, in addition to personal and demographic characteristics, information by direct interview on illnesses, injuries, chronic conditions and impairments, and other health topics. As data relating to each of these various broad topics are tabulated and analyzed, separate reports are issued which cover one or more of the specific topics. During the 1-year period between July 1962 and June 1963, a supplementary questionnaire was sent to all persons who had reported a hearing impairment in the basic interview. The data presented in this report were obtained from both the basic questionnaire and the supplements, and are based on the consolidated sample for 52 weeks of interviewing ending June 1963.

The population covered by the sample for the Health Interview Survey is the civilian, noninstitutional population of the United States living at the time of the interview. The sample does not include members of the Armed Forces, U.S. nationals living in foreign countries, or crews of vessels.

Statistical Design of the Health Interview Survey

General plan.—The sampling plan of the survey follows a multistage probability design which permits a continuous sampling of the civilian population of the United States. The first stage of this design consists of drawing a sample of 357 from about 1,900 geographically defined primary sampling units (PSU's) into which the United States has been divided. A PSU is a county, a group of contiguous counties, or a standard metropolitan statistical area.

With no loss in general understanding, the remaining stages can be combined and treated in this discussion as an ultimate stage. Within PSU's, then, ultimate stage units called segments are defined in such a manner that each segment contains an expected nine households. A segment consists of a cluster of neighboring households or addresses. Two general types of segments are used: (1) area segments which are defined geographically, and (2) B segments which are defined from a list of addresses from the Decennial Census and Survey of Construction. Each week a random sample of about 90 segments is drawn. In the approximately 800 households in these segments, household members are interviewed concerning factors related to health.

Since the household members interviewed each week are a representative sample of the population, samples for successive weeks can be combined into larger samples. Thus the design permits both continuous measurement of characteristics of high incidence or prevalence in the population and, through the larger consolidated samples, more detailed analysis of less common characteristics and smaller categories. The continuous collection has administrative and operational advantages as well as technical assets, since it permits field work to be handled with an experienced, stable staff.

Sample size and geographic detail.—The national sample plan for the 12-month period ending June 1963 included about 134,000 persons from 42,000 households in about 4,700 segments.

The overall sample was designed in such a fashion that tabulations can be provided for each of the major geographic regions and for urban and rural sectors of the United States.

Collection of data.—Field operations for the household survey are performed by the Bureau of the Census under specifications established by the National Center for Health Statistics. In accordance with these specifications the Bureau of the Census selects the sample, conducts the field interviewing as an agent of the Center, and performs a manual editing and coding of the questionnaires. However, the detailed hearing impairment data presented in this report were obtained on a supplementary questionnaire which was edited and coded by Gallaudet College. The Health Interview Survey, using Center electronic computers, carries out further editing and tabulates the edited data.

Estimating methods.—Each statistic produced by the survey—for example, the number of persons with a hearing impairment—is the result of two stages of ratio estimation. In the first of these, the control factor is the ratio of the 1960 decennial population count to the 1960 estimated population in the National Health Survey's first-stage sample of PSU's. These factors are applied for some 25 color-residence classes.

Later, ratios of sample-produced estimates of the population to official Bureau of the Census figures for current population in about 60 age-sex-color classes are computed and serve as second-stage factors for ratio estimating.

The effect of the ratio-estimating process is to make the sample more closely representative of the population by age, sex, color, and residence, thus reducing sampling variance.

As noted, each week's sample represents the population living during that week and characteristics of that population. Consolidation of samples over a time period, say a calendar quarter, produces estimates of average characteristics of the U. S. population for that calendar quarter. Similarly, population data for a year are averages of the four quarterly figures.

For prevalence statistics, such as number of persons with hearing impairments, figures are first calculated for each calendar quarter by averaging estimates for all weeks of interviewing in that quarter. Prevalence data for a year are then obtained by averaging the four quarterly figures.

General Qualifications

Nonresponse.—Data obtained on the basic questionnaire were adjusted for nonresponse by a procedure which imputes to persons in a household which was not interviewed the characteristics of persons in households in the same segment which were interviewed. The total noninterview rate was 5 percent: 1 percent was refusal and the remainder was primarily due to the failure to find any eligible household respondent after repeated trials.

It should be noted, however, that the data presented in this report contain an additional nonresponse factor. For approximately 10 percent of the persons who were reported on the basic questionnaire to have a hearing impairment, no supplementary information was obtained. Failure on the part of the respondent to return a completed supplement accounted for 7.4 percent of this nonresponse. The remaining 2.9 percent of the persons with a hearing impairment, for which no supplementary information was obtained, was caused by a clerical failure to send a supplement to the sample person. No procedures were established to allocate these nonrespondents to the respondent groups and are therefore included in all of the detailed tables for the reader's own interpretation.

The basic interview process.—The statistics presented in this report are based on replies secured in interviews of persons in the sampled households and information obtained on a follow-up mail questionnaire. For the basic interview, each person 19 years of age and over, available at the time of interview, was interviewed individually. Proxy respondents within the household were employed for children and for adults not available at the time of the interview, provided the respondent was closely related to the person about whom information was being obtained.

There are limitations to the accuracy of diagnostic and other information collected in household interviews. For diagnostic information, the household respondent can, at best, pass on to the interviewer only the information the physician has given to the family. For conditions not medically attended, diagnostic information is often no more than a description of symptoms. However, other facts, such as the number of disability days caused by the condition, can be obtained more accurately from household members than from any other source, since only the persons concerned are in a position to report this information.

Mail follow-up (Hearing Ability Survey Questionnaire).—Persons reported in the basic interview to have a hearing problem were mailed a copy of the Hearing Ability Survey Questionnaire. Adults were asked to fill out the questionnaire for themselves, and a parent or guardian was asked to complete the questionnaire for children.

In order to obtain the maximum level of response to the survey, persons who failed to respond to the initial inquiry were sent a "reminder" letter, followed by a second letter and finally by personal contact when necessary.

Rounding of numbers.—The original tabulations on which the data in this report are based show all estimates to the nearest whole unit. All consolidations were made from the original tabulations using the estimates to the nearest unit. In the final published tables the figures are rounded to the nearest thousand, although these are not necessarily accurate to that detail. Devised statistics such as rates and percent distributions are computed after the estimates on which these are based have been rounded to the nearest thousand.

Population figures.—Some of the published tables include population figures for specified categories. Except for certain overall totals by age and sex, which are adjusted to independent estimates, these figures are based on the sample of households in the National Health Survey. These are given primarily to provide denominators for rate computation, and for this purpose are more appropriate for use with the accompanying measures of health characteristics than other population data that may be available. In some instances these will permit users to recombine published data into classes more suitable for specific needs. With the exception of the overall totals by age and sex, mentioned above, the population figures differ from corresponding figures (which are derived from different sources) published in reports of the Bureau of the Census. For population data for general use, see the official estimates presented in Bureau of the Census reports in the P-20, P-25, and P-60 series.

Reliability of Estimates

Since the estimates are based on a sample, they will differ somewhat from the figures that would have been obtained if a complete census had been taken using the same schedules, instructions, and interviewing personnel and procedures. As in any survey, the results are also subject to measurement error.

The standard error is primarily a measure of sampling variability, that is, the variations that might occur by chance because only a sample of the population is surveyed. As calculated for this report, the standard error also reflects part of the variation which arises in the measurement process. It does not include estimates of any biases which might lie in the data. The chances are about 68 out of 100 that an estimate from the sample would differ from a complete census by less than the standard error. The chances are about 95 out of 100 that the difference would be less than twice the standard error and about 99 out of 100 that it would be less than 2½ times as large.

The relative standard error of an estimate is obtained by dividing the standard error of the estimate by the estimate itself, and is expressed as a percentage of the estimate. Included in this appendix are charts from which the relative standard errors can be determined for estimates shown in the report. In order to derive relative errors which would be applicable to a wide variety of health statistics and which could be prepared at a moderate cost, a number of approximations were required. As a result, the charts provide an estimate of the approximate relative standard error rather than the precise error for any specific aggregate or percentage.

Three classes of statistics for the health survey are identified for purposes of estimating variances.

Narrow range.—This class consists of (1) statistics which estimate a population attribute, e.g., the number of persons in a particular income group, and (2) statistics for which the measure for a single individual for the period of reference is usually either 0 or 1, on occasion may take on the value 2, and very rarely is 3.

Medium range.—This class consists of other statistics for which the measure for a single individual for the period of reference will rarely lie outside the range 0 to 5.

Wide range.—This class consists of statistics for which the measure for a single individual for the period of reference frequently will range from 0 to a number in excess of 5, e.g., the number of days of bed disability experienced during the year.

In addition to classifying variables according to whether they are narrow-, medium-, or wide-range, statistics in the survey are further defined as:

Type A.—Statistics on prevalence and incidence data for which the period of reference in the questionnaire is 12 months.

Type B.—Incidence-type statistics for which the period of reference in the questionnaire is 2 weeks.

Only the charts on sampling error applicable to data contained in this report are presented.

General rules for determining relative sampling errors.—The "guide" shown below, together with the following rules, will enable the reader to determine approximate relative standard errors from the charts for estimates presented in this report.

Rule 1. *Estimates of aggregates:* Approximate relative standard errors of estimates of aggregates, such as the number of persons with a given characteristic or the number of persons injured while at work, are obtained from appropriate curves on page 49. The number of persons in the total U.S. population or in an age-sex class of the total population is adjusted to official Bureau of the Census figures and is not subject to sampling error.

Rule 2. *Estimates of percentages in a percent distribution:* Relative standard errors of percentages in a percent distribution of a total are obtained from appropriate curves on page 50. For values which do not fall on one of the curves presented in the chart, visual interpolation will provide a satisfactory approximation.

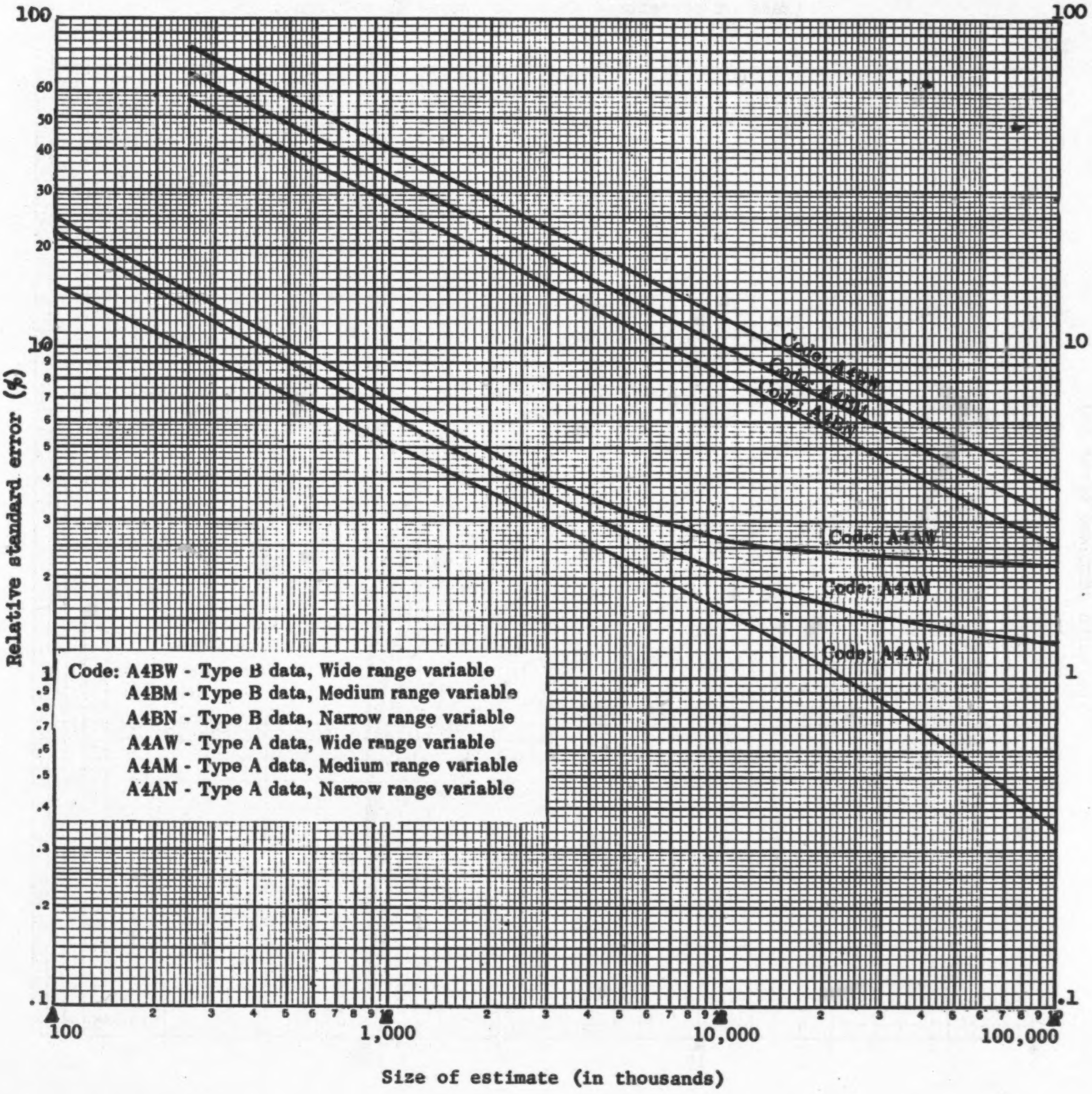
Rule 3. *Estimates of rates where the numerator is a subclass of the denominator:* This rule applies for prevalence rates or where a unit of the numerator occurs, with few exceptions, only once in the year for any one unit in the denominator. For example, in computing the rate of visual impairments due to injury per 1,000 population, the numerator consisting of persons with the impairment is a subclass of the denominator which includes all persons in the population. Such rates if converted to rates per 100 may be treated as though they were percentages, and the relative standard errors obtained from the chart on page 50. Rates per 1,000, or on any other base, must first be converted to rates per 100; then the percentage chart will provide the relative standard error per 100.

Guide to Use of Relative Standard Error Charts

The code shown below identifies the appropriate curve to be used in estimating the relative standard error of the statistic described. The four components of each code describe the statistic as follows: (1) A = aggregate, P = percentage; (2) the number of calendar quarters of data collection; (3) the type of the statistic; and (4) the range of the statistic as described on page 47.

Statistic	Use:		
	Rule	Code on	page
Number of:			
Persons in the U.S. population or in any age-sex category thereof----------------------------------	Not subject to sampling error		
Persons in any other population group--------------	1	A4AN	49
Persons with hearing loss, by type-----------------	1	A4AN	49
Percentage distribution of:			
Persons with hearing loss--------------------------	2	P4AN-M	50
Prevalence rates per 100 persons in any population group---	3	P4AN-M	50

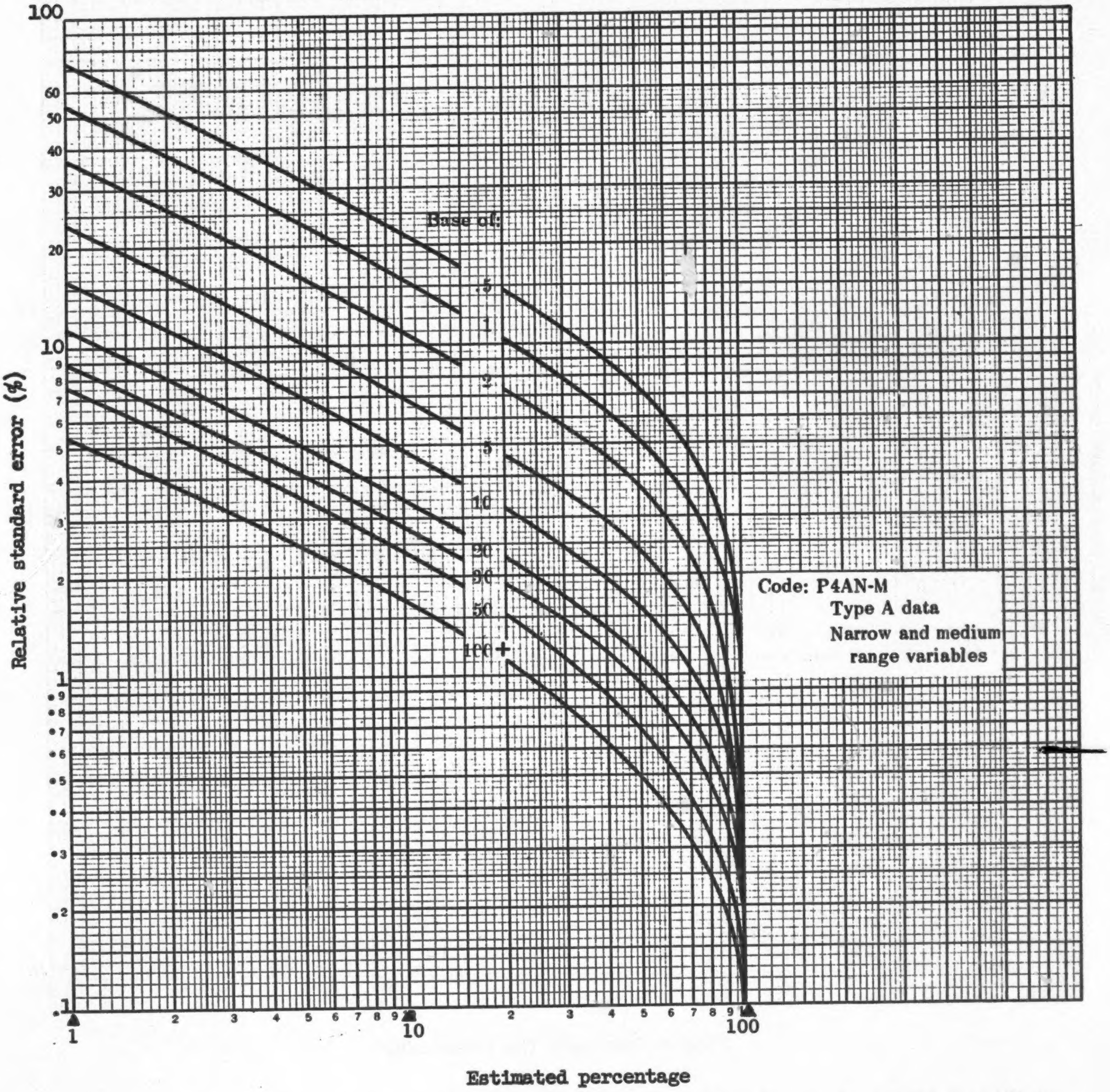
Relative standard errors for aggregates based on four quarters of data collection for data of all types and ranges



Example of use of chart: An aggregate of 2,000,000 (on scale at bottom of chart) for a Narrow range Type A statistic (code: A4AN) has a relative standard error of 3.6 percent, (read from scale at left side of chart), or a standard error of 72,000 (3.6 percent of 2,000,000). For a Wide range Type B statistic (code: A4BW), an aggregate of 6,000,000 has a relative error of 16.0 percent or a standard error of 960,000 (16 percent of 6,000,000).

Relative standard errors for percentages based on four quarters of data collection for type A data, Narrow and Medium range

(Base of percentage shown on curves in millions)



Example of use of chart: An estimate of 20 percent (on scale at bottom of chart) based on an estimate of 10,000,000 has a relative standard error of 3.2 percent (read from the scale at the left side of the chart), the point at which the curve for a base of 10,000,000 intersects the vertical line for 20 percent. The standard error in percentage points is equal to 20 percent X 3.2 percent or 0.64 percentage points.

APPENDIX II

DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT

Terms Relating to Hearing Impairments

Hearing Aid Use

All persons for whom a hearing ability supplement was completed and who reported some trouble hearing in one or both ears were asked if they had ever tried a hearing aid. All persons who answered positively to this question were then asked a series of additional questions and their responses were classified as follows:

Present user.—Includes persons responding positively to the question, "Do you use a hearing aid now?"

Former user.—Includes persons responding positively to the question, "Have you ever had a hearing aid for your own use?" and negatively to the question, "Do you use a hearing aid now?"

Present use unknown.—Includes persons responding positively to the question, "Have you ever had a hearing aid for your own use?" but failing to answer the question, "Do you use a hearing aid now?"

Never had or unknown.—Includes persons who failed to answer or responded negatively to the question, "Have you ever tried a hearing aid?" Also included in this category are those persons who reported having tried a hearing aid but who either failed to answer or responded negatively to the question, "Have you ever had a hearing aid for your own use?"

Type of Hearing Aid Used

Each person who reported ever having a hearing aid for his own use was asked two questions about the type of hearing aid used. (See questions 15(b) and (c) in Appendix IV.) Based on the answers to these questions, the type of aid was categorized as follows:

Monaural, air conduction, ear.—Fits into one ear with amplifier and batteries worn above the neck.

Monaural, air conduction, body.—Fits into one ear with amplifier and batteries worn below the neck.

Binaural, air conduction.—Fits into both ears at the same time, including both ear- and body-worn batteries and amplifiers.

Bone conduction.—Fits against either one or both sides of the head, including both ear- and body-worn battery and amplifier.

Unknown.—Failed to answer these questions.

Basis for Selecting Aid

After determining the type of hearing aid used, the person was asked "Why did you choose this (that) particular kind of hearing aid?" and was requested to check an appropriate category. (See question 15(d) in Appendix IV.) If the reason for selection did not apply to any of the categories printed on the questionnaire, the person was asked to specify the reason for selection. In some cases, it was possible to reclassify this entry in one of the specified sources. Some persons reported being advised by more than one source; in such cases priority was given in the following order:

1. *Prescribed by a doctor.*—Includes all those who checked "It was prescribed by a medical doctor."
2. *Prescribed by a clinic.*—Includes those who checked "It was prescribed by a hearing clinic."
3. *Advised by a dealer.*—Includes those who checked "It was advised by a hearing aid dealer."
4. *Saw it advertised.*—Includes those who checked "I saw it advertised."
5. *A friend or relative recommended it.*—Includes those who checked "A friend or relative told me about it."
6. *Other and unknown.*—Includes all nonreported reasons and those write-in entries which could not be categorized in any of the above reasons.

Examples of those reasons classified as "other" include write-in entries of "I inherited it," "It was given to me for Christmas," etc.

Amount of Hearing Aid Use

Each person who reported presently using a hearing aid was classified according to the amount of time he used his hearing aid. To arrive at this classification (See question 16(b), Appendix IV), each present user of a hearing aid was asked "How much do you use it?" for the following activities or places: work, school, church, movies, listening to radio or television, and at home. For each of these, the respondent was asked to choose the most appropriate answer from the following four alternatives: most of the time, once in awhile, never, or does not apply. These answers were combined into the following category "amount of hearing aid use":

1. *Constant.*—Includes those persons who reported using their hearing aid "most of the time" at home and also reported "most of the time" or "does not apply" for all other activities.
2. *Moderate.*—This category includes the following groups of persons:
    - (a) Those persons who reported using their hearing aid "most of the time" at home but were not included in the "constant" category above.
    - (b) Those persons who reported using their hearing aid "once in awhile" at home and reported for all other activities either "once in awhile," "most of the time," or "does not apply."
    - (c) Those persons who reported "never" using their hearing aid at home or failed to report the amount of use at home and reported using their hearing aid "most of the time" in at least one of the other activities.
3. *Negligible.*—This category includes the following groups of persons:
    - (a) Those persons who reported using their hearing aid "once in awhile" at home but were not included in the "moderate" category above.
    - (b) Those persons who reported "never" using their hearing aid at home or failed to report the amount of use at home and reported that they used their hearing aid "once in awhile" in at least one other activity and were not included in the "moderate" category.
4. *Never.*—This category includes the following groups of persons:
    - (a) Those persons who reported "never" using their hearing aid at home and were not included in the "negligible" group.
    - (b) Those persons who failed to report their amount of hearing aid use at home but reported "never" using their hearing aid in at least one other activity and were not included in the "moderate" or "negligible" groups above.
5. *Unknown.*—Failed to report their amount of hearing aid use at home and in all other activities.

Degree of Satisfaction With Hearing Aid

Each person who reported he was presently using a hearing aid was asked "How well satisfied are you with the hearing aid you are now using?" The three alternative choices for the question were: very well satisfied, fairly well satisfied, and not satisfied at all.

Age at Onset of Hearing Loss

Each person who reported some hearing loss on the hearing ability questionnaire was asked "How old were you when you began to have hearing trouble or grow deaf?" Since, for many types of hearing loss, it would prove quite difficult for the respondent to provide an exact age of onset, the alternative choices on the questionnaire were designed to indicate that an approximation would be acceptable. (See question 4(b), Appendix IV.)

Cause of Hearing Loss

Each person who reported some hearing loss on the hearing ability questionnaire was asked "What was the cause of your hearing trouble or deafness?" (See question 5, Appendix IV.) This question was designed to obtain detailed information about the kind of illness or injury causing the hearing loss. However, because of the small number of cases for any specific kind of illness or injury, they were categorized only as being caused by an "illness" or "injury." The other categories included the following:

Hereditary or congenital.—This category includes those responses which indicated that the person was born with the hearing impairment or considered it hereditary.

Presbycusis.—This includes any response that indicated that the hearing impairment was caused by aging.

Unknown.—This category includes only those persons who indicated that they did not know the cause of their hearing impairment.

Other and nonresponse.—This category includes all persons who could not be classified in any one of the categories and those who failed to answer the question.

Type of Hearing Examination

All persons who had reported a hearing impairment were asked if they had ever had their hearing tested by a medical doctor. All persons answering positively were asked "Was the doctor who last tested your hearing an ear specialist or was he a general family doctor?" (See question 18(b) in Appendix IV.) Responses to these two questions were categorized as follows:

Tested by a medical specialist.—Includes all persons who reported that their hearing was last tested by a medical specialist.

Tested by a doctor other than a medical specialist.—Includes all persons who reported that their hearing was last tested by a "general family doctor."

Tested by a doctor, unknown type.—Includes those persons who reported having their hearing tested by a medical doctor but failed to respond to the question dealing with the type of doctor.

Never tested by a medical doctor.—Includes those persons who reported never having had their hearing tested by a medical doctor.

Unknown if tested by a medical doctor.—Includes those persons who failed to respond to both of these questions relating to testing by a medical doctor.

Whether or Not Tested by an Audiometer

All persons who were reported to have a hearing loss were asked "Has your hearing ever been tested with an audiometer (with earphones)?" (See question 20, Appendix IV.)

Interval Since Last Tested by a Medical Doctor

All persons who were reported to have a hearing loss and also reported having had their hearing tested by a medical doctor were asked "About how long ago was your hearing last tested by a medical doctor?" (See question 18(a), Appendix IV.) Since respondents often have difficulty in recalling intervals of time, the alternative choices to this question were designed to facilitate the respondent's providing a crude estimate of the time period between the last test by a medical doctor and the date he completed the form. However, while the choice of alternative answers made it considerably easier for the respondent to provide an estimate to the question, some precision in the information obtained was lost. The first two alternative choices included on the questionnaire used for the data collection period July-December 1962 were: this year (1962) and last year (1961). The first two alternative choices used for the data collection period January-June 1963 were: this year (1963) and last year (1962). Any entry including one of these answers was categorized as "under 2 years." However, depending upon the date the questionnaire was completed, the interval actually ranged from 1 to 2 years. Therefore, the category "2-5 years" presented in this report includes some number of persons who were tested less than 2 years ago but could not be classified in either of the first two alternatives.

Terms Relating to Visual Impairments

During the household interview, a series of questions, set up to obtain the prevalence of any condition, are asked of all persons in the household, including "Does anyone in the family have serious trouble seeing with one or both eyes, even when wearing glasses?" Additional detailed information is obtained about each visual impairment reported, including—for persons 6 years old or over—whether this person can see well enough to read ordinary newspaper print. Each person who reported some visual impairment was classified as follows:

Severe visual impairment.—Includes persons who are unable to read newspaper print, even when wearing glasses and children under 6 years of age who were reported as blind in both eyes.

Other visual impairments.—Includes persons who are reported with a visual impairment in either one or both eyes and are able to read ordinary newspaper print.

Demographic Terms

Age.—The age recorded for each person is his age at last birthday. Age is recorded in single years and combined into groups suitable for the purpose of the table.

Income of family or of unrelated individuals.—Each member of a family is classified according to the total income of the family of which he is a member. Within the household all persons related to each other by blood, marriage, or adoption constitute a family. Unrelated individuals are classified according to their own income. The income recorded is the total of all income received by members of the family (or by an unrelated individual) in the 12-month period ending with the week of interview. Income from all sources is included, e.g., wages, salaries, rents from property, pensions, help from relatives, and so forth.

Educational attainment.—The categories of educational status show the highest grade of school completed. Only grades completed in regular schools, where persons are given a formal education, are included. A "regular" school is one which advances a person toward an elementary or high school diploma or a college, university, or professional school degree. Thus, education in vocational, trade, or business schools outside the regular school system is not counted in determining the highest grade of school completed.

Race.—In this report, the population has been subdivided into two groups according to "white" and "nonwhite." "Nonwhite" includes Negro, American Indian, Chinese, Japanese, and so forth. Mexican persons are included with "white" unless definitely known to be Indian or of another nonwhite race.

Residence.—The definition of urban-rural areas used in the National Health Survey is the same as that used in the 1960 census. The urban population comprises all persons living in (a) places of 2,500 inhabitants or more incorporated as cities, boroughs, villages, and towns (except towns in New England, New York, and Wisconsin); (b) the densely settled urban fringe, whether incorporated or unincorporated, of urbanized areas (see below); (c) towns in New England and townships in New Jersey and Pennsylvania which contain no incorporated municipalities as subdivisions and have either 25,000 inhabitants or more or a population of 2,500 to 25,000 and a density of 1,500 persons or more per square mile; (d) counties in States other than the New England States, New Jersey, and Pennsylvania that have no incorporated municipalities within their boundaries and have a density of 1,500 persons or more per square mile; and (e) unincorporated places of 2,500 inhabitants or more not included in any urban fringe. The remaining population is classified as rural.

Size of place.—All persons residing in an urbanized area are included in the urban population. An urbanized area, according to the 1960 census definition, contains at least one city which had 50,000 inhabitants or more in 1960, as well as the surrounding closely settled incorporated places and unincorporated areas.

The remaining urban population is classified as living in urban places outside urbanized areas. These urban places are grouped according to size.

Farm and nonfarm residence.—The rural population is subdivided into the rural-farm population which comprises all rural residents living on farms, and the rural-nonfarm population which comprises the remaining rural population. The farm population includes persons living in rural territory on places of 10 areas or more from which sales of farm products amounted to $50 or more during the previous 12 months or on places of less than 10 acres from which sales of farm products amounted to $250 or more during the preceding 12 months. Other persons living in rural non-SMSA territory were classified as nonfarm if their household paid rent for the house but their rent did not include any land used for farming.

Sales of farm products refer to the gross receipts from the sale of field crops, vegetables, fruits, nuts, livestock and livestock products (milk, wool, etc.), poultry and poultry products, and nursery and forest products produced on the place and sold at any time during the preceding 12 months.

Region.—For the purpose of classifying the population by geographic area, the States are grouped into four regions. These regions, which correspond to those used by the Bureau of the Census, are as follows:

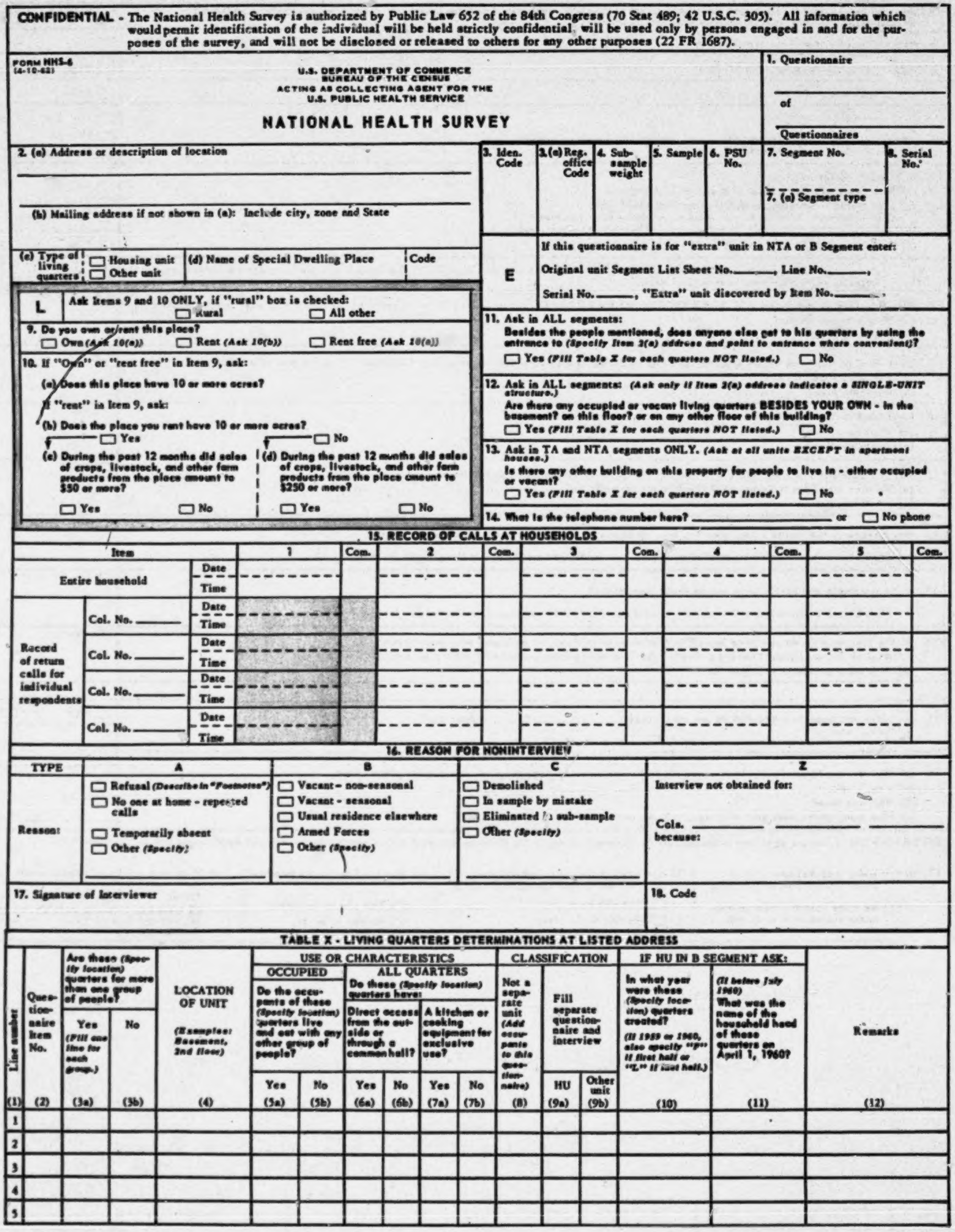
Region	*States Included*
Northeast -------	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania
North Central ---	Michigan, Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas
South -----------	Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas
West -----------	Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Alaska, Washington, Oregon, California, Hawaii

———ooo———

APPENDIX III

HOUSEHOLD INTERVIEW QUESTIONNAIRE

The items below show the exact content and wording of the basic questionnaire used in the nationwide household survey of the U.S. National Health Survey. The actual questionnaire is designed for a household as a unit and includes additional spaces for reports on more than one person, condition, accident, or hospitalization. Such repetitive spaces are omitted in this illustration.



CONFIDENTIAL - The National Health Survey is authorized by Public Law 652 of the 84th Congress (70 Stat 489; 42 U.S.C. 305). All information which would permit identification of the individual will be held strictly confidential, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any other purposes (22 FR 1687).

FORM NHS-6
(4-10-62)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
ACTING AS COLLECTING AGENT FOR THE
U.S. PUBLIC HEALTH SERVICE

NATIONAL HEALTH SURVEY

1. Questionnaire ______ of ______ Questionnaires

2. (a) Address or description of location ______

(b) Mailing address if not shown in (a): Include city, zone and State

(c) Type of living quarters ☐ Housing unit ☐ Other unit | (d) Name of Special Dwelling Place | Code

3. Iden. Code | 3.(a) Reg. office Code | 4. Sub-sample weight | 5. Sample | 6. PSU No. | 7. Segment No. | 7. (a) Segment type | 8. Serial No.

E If this questionnaire is for "extra" unit in NTA or B Segment enter:
Original unit Segment List Sheet No.______, Line No.______,
Serial No.______, "Extra" unit discovered by Item No.______.

L Ask Items 9 and 10 ONLY, if "rural" box is checked:
☐ Rural ☐ All other

9. Do you own or rent this place?
☐ Own *(Ask 10(a))* ☐ Rent *(Ask 10(b))* ☐ Rent free *(Ask 10(a))*

10. If "Own" or "rent free" in Item 9, ask:
(a) Does this place have 10 or more acres?
If "rent" in Item 9, ask:
(b) Does the place you rent have 10 or more acres?
☐ Yes ☐ No
(c) During the past 12 months did sales of crops, livestock, and other farm products from the place amount to $50 or more?
☐ Yes ☐ No
(d) During the past 12 months did sales of crops, livestock, and other farm products from the place amount to $250 or more?
☐ Yes ☐ No

11. Ask in ALL segments:
Besides the people mentioned, does anyone else get to his quarters by using the entrance to *(Specify Item 2(a) address and point to entrance where convenient)*?
☐ Yes *(Fill Table X for each quarters NOT listed.)* ☐ No

12. Ask in ALL segments: *(Ask only if Item 2(a) address indicates a SINGLE-UNIT structure.)*
Are there any occupied or vacant living quarters BESIDES YOUR OWN - in the basement? on this floor? or on any other floor of this building?
☐ Yes *(Fill Table X for each quarters NOT listed.)* ☐ No

13. Ask in TA and NTA segments ONLY. *(Ask at all units EXCEPT in apartment houses.)*
Is there any other building on this property for people to live in - either occupied or vacant?
☐ Yes *(Fill Table X for each quarters NOT listed.)* ☐ No

14. What is the telephone number here? ______ or ☐ No phone

15. RECORD OF CALLS AT HOUSEHOLDS

Item			1	Com.	2	Com.	3	Com.	4	Com.	5	Com.
Entire household		Date										
		Time										
Record of return calls for individual respondents	Col. No. ______	Date										
		Time										
	Col. No. ______	Date										
		Time										
	Col. No. ______	Date										
		Time										
	Col. No. ______	Date										
		Time										

16. REASON FOR NONINTERVIEW

TYPE	A	B	C	Z
Reason:	☐ Refusal *(Describe in "Footnotes")* ☐ No one at home - repeated calls ☐ Temporarily absent ☐ Other *(Specify)*	☐ Vacant - non-seasonal ☐ Vacant - seasonal ☐ Usual residence elsewhere ☐ Armed Forces ☐ Other *(Specify)*	☐ Demolished ☐ In sample by mistake ☐ Eliminated in sub-sample ☐ Other *(Specify)*	Interview not obtained for: Cols. ______ ______ ______ because:

17. Signature of Interviewer

18. Code

TABLE X - LIVING QUARTERS DETERMINATIONS AT LISTED ADDRESS

Line number	Questionnaire Item No.	Are these *(Specify location)* quarters for more than one group of people?		LOCATION OF UNIT *(Examples: Basement, 2nd floor)*	USE OR CHARACTERISTICS						CLASSIFICATION			IF HU IN B SEGMENT ASK:		Remarks
					OCCUPIED		ALL QUARTERS Do these *(Specify location)* quarters have:									
		Yes *(Fill one line for each group.)*	No		Do the occupants of these *(Specify location)* quarters live and eat with any other group of people?		Direct access from the outside or through a common hall?		A kitchen or cooking equipment for exclusive use?		Not a separate unit *(Add occupants to this questionnaire)*	Fill separate questionnaire and interview		In what year were these *(Specify location)* quarters created? *(If 1959 or 1960, also specify "F" if first half or "L" if last half.)*	*(If before July 1960)* What was the name of the household head of these quarters on April 1, 1960?	
					Yes	No	Yes	No	Yes	No		HU	Other unit			
(1)	(2)	(3a)	(3b)	(4)	(5a)	(5b)	(6a)	(6b)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)
1																
2																
3																
4																
5																

1. (a) What is the name of the head of this household? (Enter name in first column) (b) What are the names of all other persons who live here? (List all persons who live here) (c) I have listed (Read names). Is there anyone else staying here now such as friends, relatives, or roomers? ☐ Yes *(List)* ☐ No (d) Have I missed anyone who usually lives here but is now — Temporarily in a hospital? .... ☐ Yes *(List)* ☐ No Away on business?.................. ☐ Yes *(List)* ☐ No On a visit or vacation? .... ☐ Yes *(List)* ☐ No (e) Do any of the people in this household have a home elsewhere? ☐ Yes *(Apply household membership rules; if not a household member, delete)* ☐ No *(Leave on questionnaire)* If any adult males listed, ask: (f) Are any of the persons in this household now on full-time active duty with the Armed Forces of the United States? ☐ Yes *(Delete)* ☐ No	Last name (1) First name and initial
2. How are you related to the head of the household? (Enter relationship to head, for example: head, wife, daughter, grandson, mother-in-law, partner, roomer, roomer's wife, etc.)	Relationship Head
3. How old were you on your last birthday?	Age ☐ Under 1 year
4. Race (Check one box for each person)	☐ White ☐ Negro ☐ Other
5. Sex (Check one box for each person)	☐ Male ☐ Female
If 17 years old or over, ask: 6. Are you now married, widowed, divorced, separated or never married? (Check one box for each person)	☐ Und 17 yrs. ☐ Never married ☐ Married ☐ Divorced ☐ Widowed ☐ Separated
If 17 years old or over, ask: 7. (a) What were you doing most of the past 12 months — (For males): working, or doing something else? (For females): keeping house, working or doing anything else? If "Something else" checked, and person is 45 years old or over, ask: (b) Are you retired?	☐ Und. 17 yrs. ☐ Working ☐ Keeping house ☐ Something else ☐ Yes ☐ No
H Determine which adults are at home and record this information. Beginning with Question 8 you are to interview for himself or herself, each adult person who is at home.	☐ Und. 19 yrs. ☐ At home ☐ Not at home
8. Were you sick at any time LAST WEEK OR THE WEEK BEFORE? (That is, the 2-week period which ended this past Sunday night?) (a) What was the matter? (b) Anything else?	☐ Yes ☐ No
9. Last week or the week before did you take any medicine or treatment for any condition (besides ... which you told me about)? (a) For what conditions? (b) Anything else?	☐ Yes ☐ No
10. Last week or the week before did you have any accidents or injuries? (a) What were they? (b) Anything else?	☐ Yes ☐ No
11. Did you ever have an (any other) accident or injury that still bothers you or affects you in any way? (a) In what way does it bother you? (Record present effects) (b) Anything else?	☐ Yes ☐ No
12. Has anyone in the family - you, your - -, etc. - had any of these conditions DURING THE PAST 12 MONTHS? (Read Card A, condition by condition; record any conditions mentioned in the column for the person)	☐ Yes ☐ No
13. Does anyone in the family have any of these conditions? (Read Card B, condition by condition; record any conditions mentioned in the column for the person)	☐ Yes ☐ No
14. At the present time do you have any other ailments, conditions, or problems with your health? (a) What is the condition? (Record condition itself if still present; otherwise record present effects.) (b) Any other problems with your health?	☐ Yes ☐ No
15. (a) Have you been in a hospital at any time since ______________, a year ago? If "Yes," ask: (b) How many times were you in the hospital during that period?	☐ Yes ☐ No __________ No. of times
16. (a) Has anyone in the family been a patient in a nursing home, rest home, or any similar place since ______________, a year ago? If "Yes," ask: (b) Who was this? (c) How many times were you in a nursing home or rest home during that period?	☐ Yes ☐ No __________ No. of times (1)

INTERVIEWER: Examine ages and relationships in Questions 2 and 3 for children one year old or under, then check the appropriate box in Question 17(a).

17. (a) ☐ Baby (babies) one year or under listed. *(Go to Q. 17(b))* ☐ No baby (babies) one year or under listed. *(Go to Q. 18)*	(b) Are birth(s) for baby (babies) and delivery for mother shown in Table II? ☐ Yes *(Go to Q. 18)* ☐ No *(Go to Q. 17(c))*	(c) Was - - born in the hospital? ☐ Yes *(Go to Q. 17(d))* ☐ No *(Go to Q. 18)*	(d) When was - - born? *(Enter month, day and year)* Month ________ Day ______ Year ________ (If birthdate is since date shown in Qs. 15 and 16, fill one line of Table II for mother and one line for child.)

18. (a) I have some questions about health insurance. We don't want to include insurance that pays ONLY for accidents, but we are interested in all other kinds. Do you, your --, etc., have insurance that pays all or part of the bills when you go to the hospital? If "Yes," ask: (b) Who is covered by hospital insurance? (Check the "Yes" box in 18(a) for each person covered) (c) What is the name of the plan (or plans)? Any other plans?		☐ Yes ☐ No Name of plan(s)
19. (a) Excluding insurance that pays ONLY for accidents, do you, your --, etc., have insurance that pays all or part of the surgeon's bill for an operation? If "Yes," ask: (b) Who is covered by insurance for surgeons' bills? (Check the "Yes" box in 19(a) for each person covered) (c) What is the name of the plan (or plans)? Any other plans?		☐ Yes ☐ No Name of plan(s)
20. (a) Do you, your --, etc., have insurance that pays any part of doctors' bills for home calls and office visits? If "Yes," ask: (b) Who is covered by insurance for doctors' bills? (Check the "Yes" box in 20(a) for each person covered) (c) What is the name of the plan (or plans)? Any other plans?		☐ Yes ☐ No Name of plan(s)
(d) Does it (each plan) pay for home calls and office visits for most kinds of sickness?		☐ Yes ☐ No
		(1)
If Male and 17 years old or over, ask: 21. (a) Did you ever serve in the Armed Forces of the United States?		☐ Fem. or und. 17 yrs. ☐ Yes ☐ No
If "Yes," ask: (b) Was any of your service during a war or was it peace-time only?		☐ War ☐ Peace-time only
If "War," ask: (c) During which war did you serve?		☐ WW II ☐ Korean ☐ Other
If "Peace-time" only, ask: (d) Was any of your service between June 27, 1950 and January 31, 1955?		☐ Yes ☐ No
If 17 years old or over, ask: 22. (a) What is the highest grade you attended in school? (Circle highest grade attended or check "None")		☐ Und. 17 yrs. Elem: 1 2 3 4 5 6 7 8 High: 1 2 3 4 College: 1 2 3 4 5+ ☐ None
(b) Did you finish the -- grade (year)?		☐ Yes ☐ No
Ask for all persons 17 years old or over: 23. (a) Did you work at any time last week or the week before?		☐ Und. 17 yrs. ☐ Yes ☐ No
If "No," ask BOTH 23(b) and 23(c): (b) Even though you did not work last week or the week before do you have a job or business?		☐ Yes ☐ No
(c) Were you looking for work or on layoff from a job?		☐ Yes ☐ No
If "Yes," in Question 23(a), (b), or (c), ask: 24. (a) For whom did you work?	**NOTE:** 1. If "Yes" in Q. 23(a) or 23(b), Q. 24(a) - (d) and Q. 25 apply to the job or business that the person worked at or had last week or the week before. 2. If "Yes" in Q. 23(c) and "No" in 23(a) and 23(b), Q. 24(a)-(d) and Q. 25 apply to the person's last full-time civilian job.	Name of employer
(b) What kind of business or industry was this?		Industry
(c) What kind of work were you doing?		Occupation
Ask only for persons 20 years old or over: (d) Have you been a ____________ or doing this kind of work for the past three years?		☐ Und. 20 yrs. ☐ Yes ☐ No
25. Class of worker (Fill from information in Q. 24 (a) - (c); or, if not clear, ask additional questions)		☐ Private-paid ☐ Gov't ☐ Own ☐ Non-paid
26. Which of these income groups represents your total family income for the past 12 months, that is, your's, your --'s, etc.? (Show Card H). Include income from all sources, such as wages, salaries, rents from property, social security or retirement benefits, help from relatives, etc.		Group
R (For Q. 8-16)	For persons 19 years old or over, show who responded for (or was present during the asking of) Q. 8-16. If persons responded for self, show whether entirely or partly. For persons under 19 show who responded for them.	☐ Responded for self-entirely ☐ Responded for self-partly Col. _____ was respondent
T	INTERVIEWER: Enter the total number of hospitalizations for each person from Questions 15 and 16, or check the "None" box. Fill one line of Table II for each separate stay in the hospital.	Total No. of hospitalizations __________ or ☐ None

Table I - ILLNESSES, IMPAIRMENTS, AND INJURIES

Line number	Col. No. of person (a)	Question No. (b)	Did you EVER at any time talk to a doctor about . . .? (c)	Ask for all illnesses and present effects of old injuries: (a) If doctor talked to: **What did the doctor say it was? — did he give it a medical name?** (b) If doctor not talked to: Record original entry and ask: (d-2) - (d-5) as required. Ask for all injuries during past 2 weeks: **What part of the body was hurt?** **What kind of injury was it?** **Anything else?** (Also, fill Table A for all injuries) (d-1)	Ask if the entry in Col. (d-1) is: An Impairment, or a Symptom, or came from Question 11 or 13. **What was the cause of . . .?** (If "Cause" is an injury, also fill Table A) (d-2)	Ask only if: 6 years old or over and blindness, poor vision, or eye trouble of any kind. **Can you see well enough to read ordinary newspaper print with glasses?** (d-3)	Ask for any entry in Col. (d-1) or Col. (d-2) that includes the words: Allergy* Tumor Asthma "Condition" Cyst "Disease" Growth "Trouble" Stroke* **What kind of . . . is it?** *For an allergy or stroke ask: **How does the allergy (stroke) affect you?** (d-4)	Ask only for: Impairments and injuries And for: Abscesses Inflammation Aches Neuralgia Bleeding Neuritis Blood Clot Pains Boils Sores Cancer Soreness Cyst Tumor Growth Ulcers Infection Weakness **What part of the body is affected?** Show detail for: Ear or eye - (One or both) Head - (Skull, scalp, face) Back - (Upper, middle, lower) Arm - (Shoulder, upper, elbow, lower, wrist, hand; one or both) Leg - (Hip, upper, knee, lower, ankle, foot; one or both) (d-5)	**LAST WEEK OR THE WEEK BEFORE did . . . cause you to cut down on the things you usually do?** *Check one:* No *(Go to Col. (k))* (e)	Yes → (f)
1			☐ Yes ☐ No		x	x ☐ Yes ☐ No	x	x		
2			☐ Yes ☐ No		x	x ☐ Yes ☐ No	x	x		
3			☐ Yes ☐ No		x	x ☐ Yes ☐ No	x	x		
4			☐ Yes ☐ No		x	x ☐ Yes ☐ No	x	x		
5			☐ Yes ☐ No		x	x ☐ Yes ☐ No	x	x		

Table II - HOSPITALIZATION DURING PAST 12 MONTHS

			USE YOUR CALENDAR							
							Complete from entries in Columns (c) and (d); or, if not clear ask the questions.			
Line number	Col. No. of person (a)	Question No. (b)	**You said that you were in the hospital (once, twice, etc.) during the past year —** **When did you enter the hospital (the last time)?** (Enter month, day and year; if exact date not known, obtain estimate.) (c)			**How many nights were you in the hospital?** (If exact number not known accept best estimate) (d)	**How many of these -- nights were in the past 12 months?** (e)	**How many of these -- nights were last week or the week before?** (f)	**Was this person still in the hospital last Sunday night?** (g)	**For what condition did you enter the hospital — do you know the medical name?** (If medical name not known, enter respondent's description.) (Entry must show "Cause," "Kind," and "Part of body" in same detail as required in Table I.) (h)
1			Month	Day	Year	Nights	Nights	Nights	☐ Yes ☐ No	
2			Month	Day	Year	Nights	Nights	Nights	☐ Yes ☐ No	
3			Month	Day	Year	Nights	Nights	Nights	☐ Yes ☐ No	
4			Month	Day	Year	Nights	Nights	Nights	☐ Yes ☐ No	

Table A - ACCIDENTS AND INJURIES

Line No. from Table I	**1. When did the accident happen?**	**2. At the time of the accident, what part of the body was hurt? What kind of injury was it? Anything else?**	
☐	Year	Part(s) of body	Kind of injury (injuries)
Accident happened last week or week before *(Go to Q. 3)* ☐	(If 1961, 1962, or 1963 also enter month): Month		

3. (a) Was a car, truck, bus or other motor vehicle involved in the accident in any way? ☐ Yes ☐ No *(Go to Q. 4)*

(b) Was more than one motor vehicle involved? ☐ Yes (More than one) ☐ No

(c) Was it (either one) moving at the time? ☐ Yes ☐ No

4. (a) Where did the accident happen — at home or some other place?

1. ☐ At home (inside house)
2. ☐ At home (adjacent premises)

☐ Some other place

If "Some other place," ask:

(b) What kind of place was it?

3. ☐ Street and highway (includes roadway)
4. ☐ Farm
5. ☐ Industrial place (includes premises)
6. ☐ School (includes school premises)
7. ☐ Place of recreation and sports, except at school
8. ☐ Other *(Specify the place where accident happened)* ______

5. Were you at work at your job or business when the accident happened?

1. ☐ Yes
2. ☐ No
3. ☐ While in Armed Services
4. ☐ Under 17 at time of accident

Table I - ILLNESSES, IMPAIRMENTS, AND INJURIES

Did you have to cut down for as much as a day?		How many days during that two-week period?	During that two week period, how many days did ... keep you in bed all or most of the day?	If 6-16 years old ask: How many days did ... keep you from school last week or the week before?	If 17 years old or over ask: LAST WEEK or the WEEK BEFORE how many days did ... keep you from work? (For females add) not counting work around the house?	Did you first notice ... (did it happen) during the past 3 months OR before that time?			*To interviewer:*	About how many days during the past 12 months has ... kept you in bed all or most of the day?	If 1 or more more days in Col. (n) and Col. (e) is checked, ask: How many of these days were during last week or the week before?	Were you EVER hospitalized for this condition?	Ask after completing last condition for each person.			Line number
Check one						*Check one*		Did ... start during the past 2 weeks or before that time? (If during past 2 weeks, ask): Which week, last week or the week before?	CONTINUE if Col. (k) is checked, or the condition is on Card A or is an impairment; otherwise, STOP				Please look at each statement on this card. Then tell me which statement fits you best, in terms of health. (Show Cards D-G, as appropriate)	If "1", "2" or "3" in Col. (q): Is this because of any of the conditions you have told me about?	If "Yes" in Col. (r): Which? (Enter X on line for each condition named)	
No *(Go to Col. (k))*	Yes →					Before 3 months *(Go to Col. (n))*	During 3 mos. →									
(f-1)	(f-2)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(aa)	(n)	(o)	(p)	(q)	(r)	(s)	
		____ Days	____ Days or ☐ None	____ Days or ☐ None	____ Days or ☐ None			☐ Last week ☐ Week before ☐ Before 2 wks.		____ Days or ☐ None	____ Days or ☐ None	☐ Yes ☐ No		☐ Yes ☐ No		1
		____ Days	____ Days or ☐ None	____ Days or ☐ None	____ Days or ☐ None			☐ Last week ☐ Week before ☐ Before 2 wks.		____ Days or ☐ None	____ Days or ☐ None	☐ Yes ☐ No		☐ Yes ☐ No		2
		____ Days	____ Days or ☐ None	____ Days or ☐ None	____ Days or ☐ None			☐ Last week ☐ Week before ☐ Before 2 wks.		____ Days or ☐ None	____ Days or ☐ None	☐ Yes ☐ No		☐ Yes ☐ No		3
		____ Days	____ Days or ☐ None	____ Days or ☐ None	____ Days or ☐ None			☐ Last week ☐ Week before ☐ Before 2 wks.		____ Days or ☐ None	____ Days or ☐ None	☐ Yes ☐ No		☐ Yes ☐ No		4
		____ Days	____ Days or ☐ None	____ Days or ☐ None	____ Days or ☐ None			☐ Last week ☐ Week before ☐ Before 2 wks.		____ Days or ☐ None	____ Days or ☐ None	☐ Yes ☐ No		☐ Yes ☐ No		5

Table II - HOSPITALIZATION DURING PAST 12 MONTHS

Were any operations performed on you during this stay at the hospital? If "Yes," ask: (a) What was the name of the operation? (b) Any other operations? (i)	What is the name and address of the hospital you were in? (Enter full name of hospital, street or highway on which it is located, city and State; if city not known, enter county.) (j)	*To Interviewer* Carry this condition through Table I, if it does not appear there and "1" or more nights in Col. (f) or an Impairment or a Condition on Card A (x)	Line number
☐ Yes ☐ No	Name of hospital Street City and State		1
☐ Yes ☐ No	Name of hospital Street City and State		2
☐ Yes ☐ No	Name of hospital Street City and State		3
☐ Yes ☐ No	Name of hospital Street City and State		4

Table A - ACCIDENTS AND INJURIES

Line No. from Table I	1. When did the accident happen?	2. At the time of the accident, what part of the body was hurt? What kind of injury was it? Anything else?	
☐	Year	Part(s) of body	Kind of injury (injuries)
Accident happened last week or week before *(Go to Q. 3)* ☐	(If 1961, 1962, or 1963 also enter month):		
	Month		

3. (a) Was a car, truck, bus or other motor vehicle involved in the accident in any way? ☐ Yes ☐ No *(Go to Q. 4)*
(b) Was more than one motor vehicle involved? ☐ Yes (More than one) ☐ No
(c) Was it (either one) moving at the time? ☐ Yes ☐ No

4. (a) Where did the accident happen — at home or some other place?
1. ☐ At home (inside house) 2. ☐ At home (adjacent premises) ☐ Some other place
If "Some other place," ask:
(b) What kind of place was it?
3. ☐ Street and highway (includes roadway)
4. ☐ Farm
5. ☐ Industrial place (includes premises)
6. ☐ School (includes school premises)
7. ☐ Place of recreation and sports, except at school
8. ☐ Other *(Specify the place where accident happened)* ____________

5. Were you at work at your job or business when the accident happened?
1. ☐ Yes 2. ☐ No 3. ☐ While in Armed Services 4. ☐ Under 17 at time of accident

Card A

NATIONAL HEALTH SURVEY

Check List of Chronic Conditions

Has anyone in the family had any of these conditions during the past 12 months?

1. Asthma
2. Tuberculosis
3. Chronic bronchitis
4. Repeated attacks of sinus trouble
5. Rheumatic fever
6. Hardening of the arteries
7. High blood pressure
8. Heart trouble.
9. Stroke
10. Trouble with varicose veins
11. Hemorrhoids or piles
12. Hay fever
13. Tumor, cyst or growth
14. Chronic gallbladder or liver trouble
15. Stomach ulcer
16. Any other chronic stomach trouble
17. Kidney stones or chronic kidney trouble
18. Mental illness
19. Arthritis or rheumatism
20. Diabetes
21. Thyroid trouble or goiter
22. Any allergy
23. Epilepsy
24. Chronic nervous trouble
25. Cancer
26. Chronic skin trouble
27. Hernia or rupture
28. Prostate trouble

Card B

NATIONAL HEALTH SURVEY

Check List of Selected Impairments

Does anyone in the family have any of these conditions?

1. Deafness or serious trouble hearing with one or both ears
2. Serious trouble seeing with one or both eyes even when wearing glasses
3. Cleft palate
4. Any speech defect
5. Missing fingers, hand, or arm—toes, foot, or leg
6. Palsy
7. Paralysis of any kind
8. Repeated trouble with back or spine
9. Club foot
10. Permanent stiffness or any deformity of the foot, leg, fingers, arm or back
11. Any condition present since birth

Card D

NATIONAL HEALTH SURVEY

For:

Workers and other persons except Housewives and Children

1. Not able to work at all.
2. Able to work but limited in amount of work or kind of work.
3. Able to work but limited in kind or amount of other activities.
4. Not limited in any of these ways.

Card E

NATIONAL HEALTH SURVEY

For: Housewife

1. Not able to keep house at all.
2. Able to keep house but limited in amount or kind of housework.
3. Able to keep house but limited in kind or amount of other activities.
4. Not limited in any of these ways.

Card F

NATIONAL HEALTH SURVEY

For:

Children from 6 through 16 years old

1. Not able to go to school at all.
2. Able to go to school but limited to certain types of schools or in school attendance.
3. Able to go to school but limited in other activities.
4. Not limited in any of these ways.

Card G

NATIONAL HEALTH SURVEY

For: Children under 6 years old

1. Not able to take part at all in ordinary play with other children.
2. Able to play with other children but limited in amount or kind of play.
4. Not limited in any of these ways.

Card H

NATIONAL HEALTH SURVEY

Family income during past 12 months

Group A.	Under $500 (Including loss)
Group B.	$500 - $999
Group C.	$1,000 - $1,999
Group D.	$2,000 - $2,999
Group E.	$3,000 - $3,999
Group F.	$4,000 - $4,999
Group G.	$5,000 - $6,999
Group H.	$7,000 - $9,999
Group I.	$10,000 and over

APPENDIX IV

HEARING ABILITY SUPPLEMENTARY QUESTIONNAIRE

Budget Bureau No. 68-R620.S6; Approval Expires September 30, 1963

CONFIDENTIAL - This information is collected for the U.S. Public Health Service under authority of Public Law 652 of the 84th Congress (70 Stat 489; 42 U.S.C. 305). All information which would permit identification of the individual will be held strictly confidential, will be used only by persons engaged in and for the purposes of the survey and will not be disclosed or released to others for any other purposes (22 FR 1687).

FORM NHS-D-1
(5-28-62)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
ACTING AS COLLECTING AGENT FOR THE
U.S. PUBLIC HEALTH SERVICE

NATIONAL HEALTH SURVEY
(Hearing Ability)

SAMPLE PSU
SEGMENT
SERIAL COL

Name of person for whom this form should be filled out

GENERAL INSTRUCTIONS

Please answer all of the questions in this form that apply to you. Most of the questions can be answered by checking one of the boxes, like this: ☑. In some of the questions, more than one box may be checked for your answer. In a few questions, a number (such as age) is asked for. In a few others, a written description or explanation is required.

If the person for whom the information is requested is a child, a parent or guardian should answer the questions for him or her.

SECTION A

(Please do not omit any part of Questions 1 and 2 even though one or more of the statements may not appear to be directly related to your present ability to hear.)

1. WITHOUT using a hearing aid, what can you hear? *(Please check the "Yes" or "No" box after each statement.)*	Yes	No
I can hear loud noises.		
Most of the time I can tell one kind of noise from another.		
If I hear a sound, most of the time I can tell if it is a person's voice or not.		
I can hear and understand a few words a person says if I can see his face and lips.		
I can hear and understand a few words a person says without seeing his face and lips.		
I can hear and understand most of the things a person says if I can see his face and lips.		
I can hear and understand most of the things a person says without seeing his face and lips.		
Most of the time I can hear and understand a discussion between several people without seeing their faces and lips.		
I can hear and understand a telephone conversation on an ordinary telephone (that is a telephone without an amplifier).		

2. Please describe how well you can hear, **without using a hearing aid**, by checking **one** of the statements below for **each** ear. For example, a person who is deaf in his left ear and has good hearing in his right ear would check the following: In left ear - box (d); In right ear - box (e).

In left ear	In right ear
(a) ☐ My hearing is good	(e) ☐ My hearing is good
(b) ☐ I have a little trouble hearing	(f) ☐ I have a little trouble hearing
(c) ☐ I have a lot of trouble hearing	(g) ☐ I have a lot of trouble hearing
(d) ☐ I am deaf	(h) ☐ I am deaf

If you have checked that your hearing is good in both ears – (a) and (e) checked, skip the questions on Pages 2 and 3 and turn to Section D on Page 4.

If you have any trouble hearing at all, please go on and answer the questions that follow on Pages 2 and 3.

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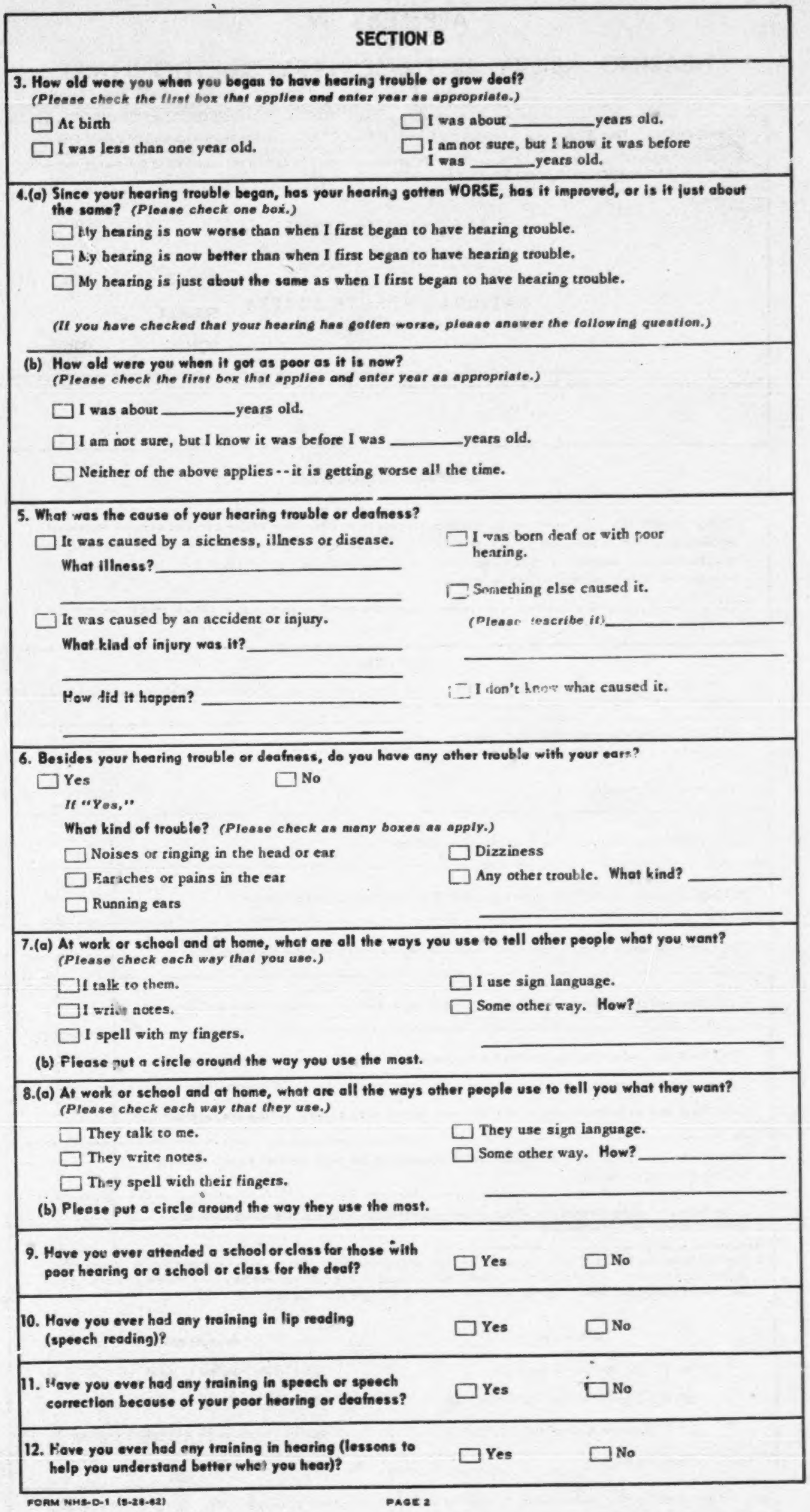

SECTION B

3. How old were you when you began to have hearing trouble or grow deaf?
(Please check the first box that applies and enter year as appropriate.)

☐ At birth
☐ I was less than one year old.
☐ I was about ________ years old.
☐ I am not sure, but I know it was before I was ________ years old.

4.(a) Since your hearing trouble began, has your hearing gotten WORSE, has it improved, or is it just about the same? *(Please check one box.)*

☐ My hearing is now worse than when I first began to have hearing trouble.
☐ My hearing is now better than when I first began to have hearing trouble.
☐ My hearing is just about the same as when I first began to have hearing trouble.

(If you have checked that your hearing has gotten worse, please answer the following question.)

(b) How old were you when it got as poor as it is now?
(Please check the first box that applies and enter year as appropriate.)

☐ I was about ________ years old.
☐ I am not sure, but I know it was before I was ________ years old.
☐ Neither of the above applies--it is getting worse all the time.

5. What was the cause of your hearing trouble or deafness?

☐ It was caused by a sickness, illness or disease.
What illness? ________________

☐ It was caused by an accident or injury.
What kind of injury was it? ________________
How did it happen? ________________

☐ I was born deaf or with poor hearing.
☐ Something else caused it.
(Please describe it) ________________
☐ I don't know what caused it.

6. Besides your hearing trouble or deafness, do you have any other trouble with your ears?

☐ Yes ☐ No

If "Yes,"

What kind of trouble? *(Please check as many boxes as apply.)*

☐ Noises or ringing in the head or ear
☐ Earaches or pains in the ear
☐ Running ears
☐ Dizziness
☐ Any other trouble. **What kind?** ________________

7.(a) At work or school and at home, what are all the ways you use to tell other people what you want?
(Please check each way that you use.)

☐ I talk to them.
☐ I write notes.
☐ I spell with my fingers.
☐ I use sign language.
☐ Some other way. **How?** ________________

(b) Please put a circle around the way you use the most.

8.(a) At work or school and at home, what are all the ways other people use to tell you what they want?
(Please check each way that they use.)

☐ They talk to me.
☐ They write notes.
☐ They spell with their fingers.
☐ They use sign language.
☐ Some other way. **How?** ________________

(b) Please put a circle around the way they use the most.

9. Have you ever attended a school or class for those with poor hearing or a school or class for the deaf? ☐ Yes ☐ No

10. Have you ever had any training in lip reading (speech reading)? ☐ Yes ☐ No

11. Have you ever had any training in speech or speech correction because of your poor hearing or deafness? ☐ Yes ☐ No

12. Have you ever had any training in hearing (lessons to help you understand better what you hear)? ☐ Yes ☐ No

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SECTION C

(The questions in this section refer to the use of hearing aids.)

13. Have you ever tried a hearing aid? ☐ Yes ☐ No *(If "No," skip to Section D on Page 4)*

14. Have you ever had a hearing aid for your own use? ☐ Yes ☐ No *(If "No," skip to Section D on Page 4)*

15. (a) If you have a hearing aid NOW, please check here ⟶ ☐
AND check one of the boxes below to indicate when you got it.

If you do NOT have a hearing aid NOW, please check here ⟶ ☐
AND check one of the boxes below to indicate when you got the last one you had.

When did you get it?

☐ This year (1962)
☐ Last year (1961)
☐ 2 - 5 years ago
☐ 6 - 10 years ago
☐ More than 10 years ago

The remaining parts of Question 15 apply to your present hearing aid if you have one now. If you do not have a hearing aid now, they apply to the **last** hearing aid you had.

(b) What kind of hearing aid is (was) it? *(Please check one box)*

Air conduction
☐ Fits into one ear
☐ Fits into both ears at the same time

Bone conduction
☐ Fits against one side of the head
☐ Fits against both sides of the head at the same time

(c) Where are (were) the amplifier and batteries worn when you use (used) the hearing aid? *(Please check one box)*

☐ Above the neck
☐ Below the neck

(d) Why did you choose this (that) particular kind of hearing aid? *(Please check one box)*

☐ It was prescribed by a medical doctor
☐ It was prescribed by a hearing clinic
☐ A friend or relative told me about it
☐ I saw it advertised
☐ It was advised by a hearing aid dealer
☐ Some other reason (Please explain)

____

____

(e) About how long did it take to get used to it? *(Please check one box)*

☐ Less than one month
☐ One to six months
☐ More than six months
☐ Never have gotten used to it

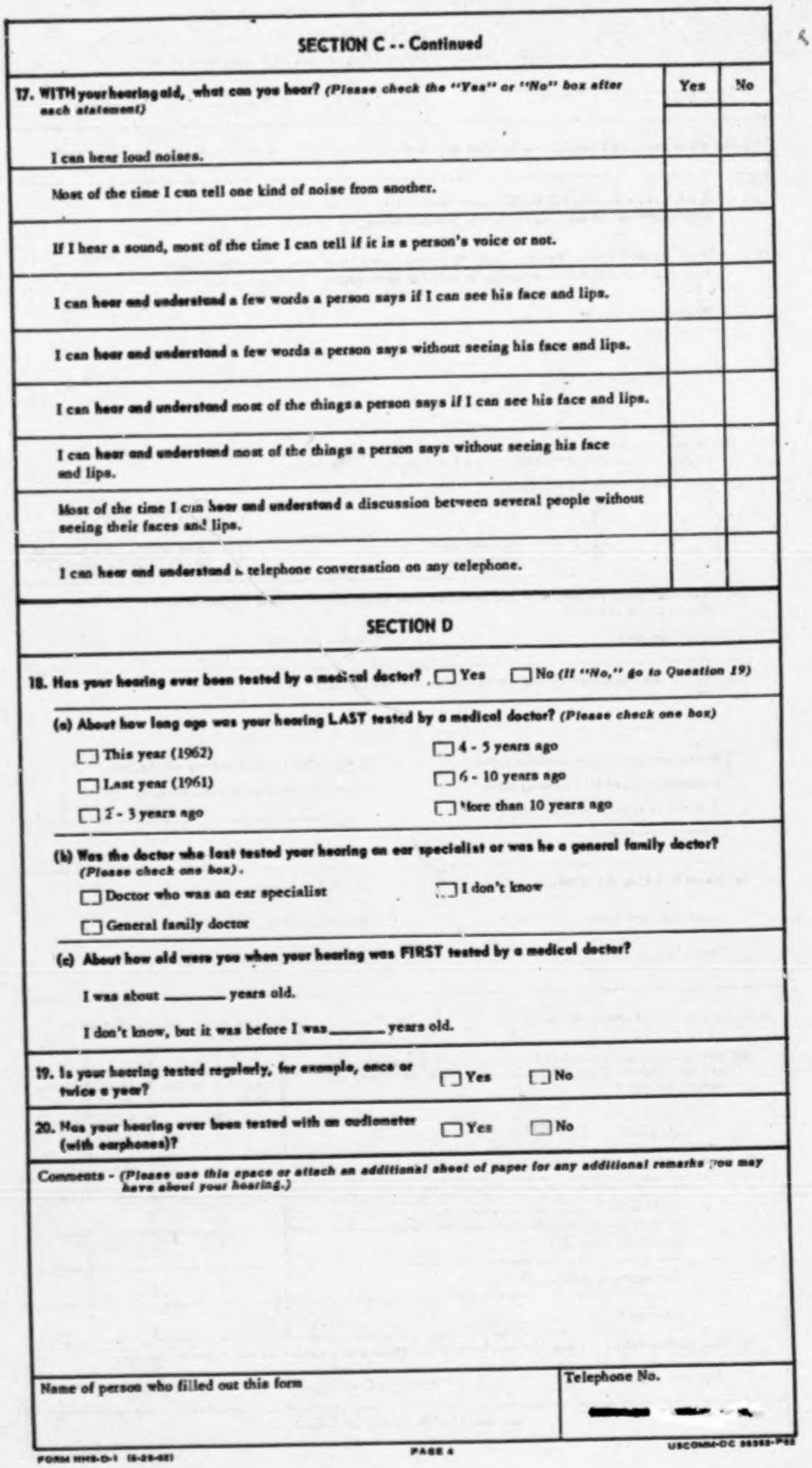
16 (a) Do you use a hearing aid now? ☐ Yes ☐ No *(If "No," skip to Section D on page 4)*

(b) How much do you use it? *(Please check one box on each line)* *(If you do not work, go to school, etc., check the "Does not apply" column.)*	Does not apply	Most of the time	Once in a while	Never
At work?				
At school?				
At church?				
At the movies?				
Listening to radio or TV?				
At home?	▨			

(c) How well satisfied are you with the hearing aid you are now using? *(Please check one box)*

☐ Very well satisfied
☐ Fairly well satisfied
☐ Not satisfied at all

Question 17 of Section C on Page 4



SECTION C -- Continued

17. **WITH your hearing aid, what can you hear?** *(Please check the "Yes" or "No" box after each statement)*	Yes	No
I can hear loud noises.		
Most of the time I can tell one kind of noise from another.		
If I hear a sound, most of the time I can tell if it is a person's voice or not.		
I can **hear and understand** a few words a person says if I can see his face and lips.		
I can **hear and understand** a few words a person says without seeing his face and lips.		
I can **hear and understand** most of the things a person says if I can see his face and lips.		
I can **hear and understand** most of the things a person says without seeing his face and lips.		
Most of the time I can **hear and understand** a discussion between several people without seeing their faces and lips.		
I can **hear and understand** a telephone conversation on any telephone.		

SECTION D

18. Has your hearing ever been tested by a medical doctor? ☐ Yes ☐ No *(If "No," go to Question 19)*

(a) About how long ago was your hearing LAST tested by a medical doctor? *(Please check one box)*

☐ This year (1962)
☐ Last year (1961)
☐ 2 - 3 years ago
☐ 4 - 5 years ago
☐ 6 - 10 years ago
☐ More than 10 years ago

(b) Was the doctor who last tested your hearing an ear specialist or was he a general family doctor? *(Please check one box)*.

☐ Doctor who was an ear specialist
☐ General family doctor
☐ I don't know

(c) About how old were you when your hearing was FIRST tested by a medical doctor?

I was about ______ years old.

I don't know, but it was before I was ______ years old.

19. Is your hearing tested regularly, for example, once or twice a year? ☐ Yes ☐ No

20. Has your hearing ever been tested with an audiometer (with earphones)? ☐ Yes ☐ No

Comments - *(Please use this space or attach an additional sheet of paper for any additional remarks you may have about your hearing.)*

Name of person who filled out this form	Telephone No.
	[redacted]

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U. S. GOVERNMENT PRINTING OFFICE : 1967 O - 240-886

OUTLINE OF REPORT SERIES FOR VITAL AND HEALTH STATISTICS

Public Health Service Publication No. 1000

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